

# How to Critically Analyze Information Sources

## Part I: Books and Journals

### Initial Appraisal

You can begin evaluating a physical information source (a book or an article for instance) even before you have the physical item in hand. Appraise a source by first examining the bibliographic citation. The bibliographic citation is the written description of a book, journal article, essay, or some other published material that appears in a catalog or index. Bibliographic citations characteristically have three main components: author, title, and publication information. These components can help you determine the usefulness of this source for your paper. (In the same way, you can appraise a Web site by examining the home page carefully.)

#### A. Author

1. What are the author's credentials--institutional affiliation (where he or she works), educational background, past writings, or experience? Is the book or article written on a topic in the author's area of expertise? You can use the various Who's Who publications for the U.S. and other countries and for specific subjects and the biographical information located in the publication itself to help determine the author's affiliation and credentials.
2. Has your instructor mentioned this author? Have you seen the author's name cited in other sources or bibliographies? Respected authors are cited frequently by other scholars. For this reason, always note those names that appear in many different sources.
3. Is the author associated with a reputable institution or organization? What are the basic values or goals of the organization or institution?

#### B. Date of Publication

1. When was the source published? This date is often located on the face of the title page below the name of the publisher. If it is not there, look for the copyright date on the reverse of the title page. On Web pages, the date of the last revision is usually at the bottom of the home page, sometimes every page.
2. Is the source current or out-of-date for your topic? Topic areas of continuing and rapid development, such as the sciences, demand more current information. On the other hand, topics in the humanities often require material that was written many years ago. At the other extreme, some news sources on the Web now note the hour and minute that articles are posted on their site.

#### C. Edition or Revision

1. Is this a first edition of this publication or not? Further editions indicate a source has been revised and updated to reflect changes in knowledge, include omissions, and harmonize with its intended reader's needs. Also, many printings or editions may indicate that the work has become a standard source in the area and is reliable. If you are using a Web source, do the pages indicate revision dates?

#### D. Publisher

1. Note the publisher. If the source is published by a university press, it is likely to be scholarly. Although the fact that the publisher is reputable does not necessarily guarantee quality, it does show that the publisher may have high regard for the source being published.

#### E. Title of Journal

1. Is this a scholarly or a popular journal? This distinction is important because it indicates different levels of complexity in conveying ideas. If you need help in determining the type of journal, see *Distinguishing Scholarly from Non-Scholarly Periodicals*. Or you may wish to check your journal title in the latest edition of *Katz's Magazines for Libraries* (Olin Ref Z 6941 .K21, shelved at the reference desk) for a brief evaluative description.

### Content Analysis

Having made an initial appraisal, you should now examine the body of the source. Read the preface to determine the author's intentions for the book. Scan the table of contents and the index to get a broad overview of the material it covers. Note whether bibliographies are included. Read the chapters that specifically address your topic. Scanning the table of contents of a journal or magazine issue is also useful. As with books, the presence and quality of a bibliography at the end of the article may reflect the care with which the authors have prepared their work.

#### A. Intended Audience

1. What type of audience is the author addressing? Is the publication aimed at a specialized or a general

audience? Is this source too elementary, too technical, too advanced, or just right for your needs?

#### B. Objective Reasoning

1. Is the information covered fact, opinion, or propaganda? It is not always easy to separate fact from opinion. Facts can usually be verified; opinions, though they may be based on factual information, evolve from the interpretation of facts. Skilled writers can make you think their interpretations are facts.
2. Does the information appear to be valid and well-researched, or is it questionable and unsupported by evidence? Assumptions should be reasonable. Note errors or omissions.
3. Are the ideas and arguments advanced more or less in line with other works you have read on the same topic? The more radically an author departs from the views of others in the same field, the more carefully and critically you should scrutinize his or her ideas.
4. Is the author's point of view objective and impartial? Is the language free of emotion-arousing words and bias?

#### C. Coverage

1. Does the work update other sources, substantiate other materials you have read, or add new information? Does it extensively or marginally cover your topic? You should explore enough sources to obtain a variety of viewpoints.
2. Is the material primary or secondary in nature? Primary sources are the raw material of the research process. Secondary sources are based on primary sources. For example, if you were researching Konrad Adenauer's role in rebuilding West Germany after World War II, Adenauer's own writings would be one of many primary sources available on this topic. Others might include relevant government documents and contemporary German newspaper articles. Scholars use this primary material to help generate historical interpretations—a secondary source. Books, encyclopedia articles, and scholarly journal articles about Adenauer's role are considered secondary sources. In the sciences, journal articles and conference proceedings written by experimenters reporting the results of their research are primary documents. Choose both primary and secondary sources when you have the opportunity.

#### D. Writing Style

1. Is the publication organized logically? Are the main points clearly presented? Do you find the text easy to read, or is it stilted or choppy? Is the author's argument repetitive?

#### E. Evaluative Reviews

1. Locate critical reviews of books in a reviewing source, such as Book Review Index, Book Review Digest, OR Periodical Abstracts. Is the review positive? Is the book under review considered a valuable contribution to the field? Does the reviewer mention other books that might be better? If so, locate these sources for more information on your topic.
2. Do the various reviewers agree on the value or attributes of the book or has it aroused controversy among the critics?

## Part II: The Internet

### Authorship

Authorship is perhaps the major criterion used in evaluating information. Who wrote this? When we look for information with some type of critical value, we want to know the basis of the authority with which the author speaks. Here are some possible filters:

- In your own field of study, the author is a well-known and well-regarded name you recognize.
- When you find an author you do not recognize:
  - the author is mentioned in a positive fashion by another author or another person you trust as an authority;
  - you found or linked to the author's Web/Internet document from another document you trust;
  - the Web/Internet document you are reading gives biographical information, including the author's position, institutional affiliation and address;
  - biographical information is available by linking to another document; this enables you to judge whether the author's credentials allow him/her to speak with authority on a given topic;
  - if none of the above, there is an address and telephone number as well as an e-mail address for the author in order to request further information on his or her work and professional background. An e-mail address alone gives you no more information than you already have.

### Publishing Body

The publishing body also helps evaluate any kind of document you may be reading. In the print universe, this generally means that the author's manuscript has undergone screening in order to verify that it meets the standards or aims of the organization that serves as publisher. This may include peer review. On the Internet, ask the following questions to assess the role and authority of the "publisher", which in this case means the server (computer) where the document lives:

- Is the name of any organization given on the document you are reading? Are there headers, footers, or a distinctive watermark that show the document to be part of an official academic or scholarly Web site? Can you contact the site Webmaster from this document?
- If not, can you link to a page where such information is listed? Can you tell that it's on the same server and in the same directory (by looking at the URL)?
- Is this organization recognized in the field in which you are studying?
- Is this organization suitable to address the topic at hand?
- Can you ascertain the relationship of the author and the publisher/server? Was the document that you are viewing prepared as part of the author's professional duties (and, by extension, within his/her area of expertise)? Or is the relationship of a casual or for-fee nature, telling you nothing about the author's credentials within an institution?
- Can you verify the identity of the server where the document resides? Internet programs such as `nslookup` and `whois` will be of help.
- Does this Web page actually reside in an individual's personal Internet account, rather than being part of an official Web site? This type of information resource should be approached with the greatest caution.

### Point of View and Bias

Point of view or bias reminds us that information is rarely neutral. Because data is used in selective ways to form information, it generally represents a point of view. Every writer wants to prove his point, and will use the data and information that assists him in doing so. When evaluating information found on the Internet, it is important to examine who is providing the "information" you are viewing, and what might be their point of view or bias. The popularity of the Internet makes it the perfect venue for commercial and sociopolitical publishing. These areas in particular are open to highly "interpretative" uses of data.

Read *Information and its Counterparts: Propaganda, Misinformation and Disinformation* for learn more about "interpretational views" that exceed the facts.

Steps for evaluating point of view are based on authorship or affiliation:

- First, note the URL of the document. Does this document reside on the Web server of an organization that has a clear stake in the issue at hand?
  - If you are looking at a corporate Web site, assume that the information on the corporation will present it in the most positive light.
  - If you are looking at products produced and sold by that corporation, remember: you are looking at an advertisement.
  - If you are reading about a political figure at the Web site of another political party, you are reading the opposition.
- Does this document reside on the Web server of an organization that has a political or philosophical agenda?
  - If you are looking for scientific information on human genetics, would you trust a political organization to provide it?
  - Never assume that extremist points of view are always easy to detect. Some sites promoting these views may look educational. To learn more, read "Rising Tide: Sites Born of Hate", *New York Times*, March 18, 1999. (This link will take you to the online edition of the Times; you must register, free of charge, to view the article).

Many areas of research and inquiry deal with controversial questions, and often the more controversial an issue is, the more interesting it is. When looking for information, it is always critical to remember that everyone has an opinion. Because the structure of the Internet allows for easy self publication, the variety of points of view and bias will be the widest possible.

### Referral and Knowledge of the Literature

Referral to and/or knowledge of the literature refers to the context in which the author situates his or her work. This

reveals what the author knows about his or her discipline and its practices. This allows you to evaluate the author's scholarship or knowledge of trends in the area under discussion. The following criteria serve as a filter for all formats of information:

- The document includes a bibliography.
- The author alludes to or displays knowledge of related sources, with proper attribution.
- The author displays knowledge of theories, schools of thought, or techniques usually considered appropriate in the treatment of his or her subject.
- If the author is using a new theory or technique as a basis for research, he or she discusses the value and/or limitations of this new approach.
- If the author's treatment of the subject is controversial, he or she knows and acknowledges this.

### **Accuracy and Verifiability**

Accuracy or verifiability of details is an important part of the evaluation process, especially when you are reading the work of an unfamiliar author presented by an unfamiliar organization, or presented in a non-traditional way. Criteria for evaluating accuracy include:

- For a research document, the data that was gathered and an explanation of the research method(s) used to gather and interpret it are included.
- The methodology outlined in the document is appropriate to the topic and allows the study to be duplicated for purposes of verification.
- The document relies on other sources that are listed in a bibliography or includes links to the documents themselves.
- The document names individuals and/or sources that provided non-published data used in the preparation of the study.
- The background information that was used can be verified for accuracy.

### **Currency**

Currency refers to the timeliness of information. In printed documents, the date of publication is the first indicator of currency. For some types of information, currency is not an issue: authorship or place in the historical record is more important (e.g., T. S. Eliot's essays on tradition in literature). For many other types of data, however, currency is extremely important, as is the regularity with which the data is updated. Apply the following criteria to ascertain currency:

- The document includes the date(s) at which the information was gathered (e.g., US Census data).
- The document refers to clearly dated information (e.g., "Based on 1990 US Census data.").
- Where there is a need to add data or update it on a constant basis, the document includes information on the regularity of updates.
- The document includes a publication date or a "last updated" date.
- The document includes a date of copyright.
- If no date is given in an electronic document, you can view the directory in which it resides and read the date of latest modification.

### **Search Engine Results**

If you found information using one of the search engines available on the Internet, such as Google, a directory of the Internet such as Yahoo, or any of the services that rate World Wide Web pages, you need to know:

- How the search engine decides the order in which it returns information requested. Some Internet search engines "sell" top space to advertisers who pay them to do so. Read *Pay for Placement?* from [Searchenginewatch.com](http://Searchenginewatch.com).
- That Internet search engines aren't like the databases found in libraries. Library databases include subject headings, abstracts, and other evaluative information created by information professionals to make searching more accurate. In addition, library databases index more permanent and reliable information.
- How that search engine looks for information, and how often their information is updated. An excellent source for search engine information is *Search Engine Showdown*, written by Greg R. Notess.

### **Too Good?**

All information, whether in print or by byte, needs to be evaluated by readers for authority, appropriateness, and other personal criteria for value. If you find information that is "too good to be true", it probably is. Never use information that you cannot verify. Establishing and learning criteria to filter information you find on the Internet is a good beginning for becoming a critical consumer of information in all forms. "Cast a cold eye" (as Yeats wrote) on everything you read. Question it. Look for other sources that can authenticate or corroborate what you find. Learn to be skeptical and then learn to trust your instincts.

(Adapted from <http://www.library.cornell.edu/okuref/research/skill26.htm> and <http://www.library.jhu.edu/researchhelp/general/evaluating/>)