drug in people without federal monitoring and explicit written permission from each patient is unethical and illegal. Therefore it is no less unethical and illegal to do the same with a checklist. Indeed, a checklist may require even more stringent oversight, the administration ruled, because the data gathered in testing it could put not only the patients but also the doctors at risk—by exposing how poorly some of them follow basic infection-prevention procedures.

The need for safeguards in medical experimentation has been evident since before the Nazi physician trials at Nuremberg. Testing a checklist for infection prevention, however, is not the same as testing an experimental drug—and neither are like-minded efforts now under way to reduce pneumonia in hospitals, improve the consistency of stroke and heart attack treatment and increase flu vaccination rates. Such organizational research work, new to medicine, aims to cement minimum standards and ensure they are followed, not to discover new therapies. This work is different from drug testing not merely because it poses lower risks, but because a failure to carry it out poses a vastly greater risk to people’s lives.

A large body of evidence gathered in recent years has revealed a profound failure by health-care professionals to follow basic steps proven to stop infection and other major complications. We now know that hundreds of thousands of Americans suffer serious complications or die as a result. It’s not for lack of effort. People in health care work long, hard hours. They are struggling, however, to provide increasingly complex care in the absence of effective systematization.

Excellent clinical care is no longer possible without doctors and nurses routinely using checklists and other organizational strategies and studying their results. There need to be as few barriers to such efforts as possible. Instead, the endeavor itself is treated as the danger.

If the government’s ruling were applied more widely, whole swaths of critical work to ensure safe and effective care would either halt or shrink: efforts by the Centers for Disease Control and Prevention to examine responses to outbreaks of infectious disease; the military’s program to track the care of wounded soldiers; the Five Million Lives campaign, by the nonprofit Institute for Healthcare Improvement, to reduce avoidable complications in 3,700 hospitals nationwide.

I work with the World Health Organization on a new effort to introduce surgical safety checklists worldwide. It aims to ensure that a dozen basic safety steps are actually followed in operating rooms here and abroad—that the operating team gives an antibiotic before making an incision, for example, and reviews how much blood loss to prepare for. A critical component of the program involves tracking successes and failures and learning from them. If each of the hundreds of hospitals we’re trying to draw into the program were required to obtain permissions for this, even just from research regulators, few could join.

Scientific research regulations had previously exempted efforts to improve medical quality and public health—because they hadn’t been scientific. Now that the work is becoming more systematic (and effective), the authorities have stepped in. And they’re in danger of putting ethics bureaucracy in the way of actual ethical medical care. The agency should allow this research to continue unencumbered. If it won’t, then Congress will have to.

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**CHAPTER 5**

**Using Rhetorical Reading for Researched Writing Projects**

The only way in which a human being can make some approach to knowing the whole of a subject is by hearing what can be said about it by persons of every variety of opinion and studying all modes in which it can be looked at by every character of mind.

—John Stuart Mill

As the opening epigraph suggests, wisdom emerges only through careful examination of many differing perspectives. Given the wonders of twenty-first-century digital technology, it is probably not literally possible to consider “every variety of opinion,” but this same technology

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This chapter will show you systematic and efficient techniques for using rhetorical reading strategies to find reliable sources within the twenty-first century’s deluge of information. Specifically, you will learn:

- The definition of information literacy and skills for developing it
- A process called Question Analysis that will make your research more productive
- Important differences in publication and editing processes for different kinds of sources
- Distinctions between library databases and Web search engines
- Tips for finding and evaluating reliable sources by examining
  - Publication type
  - Relevance
  - Currency and scope
  - Credentials of authors, experts, publishers, and sponsors

To illustrate these processes, we include excerpts from the research log that the student Jack prepared while working on the paper about ethanoll in Chapter 6.
already know about possible answers to your research question, but will also suggest in advance what you need to “listen” for when you begin examining sources. The QA process of freewriting in response to these prompts will enable you (1) to make a preliminary map of the terrain you need to cover in your search for relevant source materials, and (2) to consider in advance what kinds of sources are going to be most useful for you to retrieve, read, and eventually integrate into your paper.

The QA process takes you out of a passive role (waiting to see what you can find) and puts you in charge of your research. Taking a small bit of time to prepare for research by using Question Analysis is similar to pausing to assess your background knowledge, an important part of preparing to read, as we described in Chapter 3 (pp. 41-42). The time spent planning and predicting will help you read more powerfully and thus choose potential sources more efficiently. Whatever your purpose for research, if you clarify your questions for yourself in advance, you will greatly reduce the risk of losing sight of your purpose once you dive into the search process. In fact, students who use QA

for the first time are often surprised to discover how much they already know about where they are likely to find relevant sources and what issues those sources will raise. For additional insights into the QA process, we invite you to examine the excerpts from Jack’s research log on the previous page.

Tips for Finding Reliable Sources

One of the great advantages of digital library resources is that they allow you to answer many questions about a source’s reliability before you retrieve the actual source. That is, the same catalog and database screens that help you locate materials will likely also help you quickly evaluate the reliability and relevance of a potential source. That evaluation will in turn help you make good decisions about how far you want to pursue retrieval of that source. (Will you look at full text? Bookmark the source for later? Skim it online? Print it? Take notes? And so forth.)

The tips we provide in this section will help you use the QA questions efficiently to choose the sources you want to look at more closely. In the next section, we provide tips for evaluating the sources you choose to examine further. To illustrate how one student’s research process unfolded, we include more excerpts from Jack’s research log on pages 115 and 116.

Tip #1. Prefer Sources That Have Undergone Solid Editorial Review and Fact-Checking

Whether you access sources on paper in the library stacks or electronically through a library database or Web search engine, you must scrutinize their contexts and purposes for relevance and reliability. We recommend searching your library’s online catalog and periodicals databases before jumping on the Web, which contains garbage as well as gold. The abundance and immediacy of information now available through the Internet make careful scrutiny crucial to your research work, especially during the early stages of your research, when your main goal is to catch the drift of the published conversation relevant to your research question. It can be difficult to assess the credibility of Web authors or the motives of a site sponsor, but here is a valuable rule of thumb: Whether you are reading in print or online, the more that you feel like someone is shouting and the more that ads interfere with your reading, the more cautiously you need to be. For academic papers, you need sources with a calm, even-handed approach.

After filling out his Question Analysis log, Jack started his search the way librarians recommend, by looking for current magazine and journal articles in a periodicals database. The materials found through these databases are easy to access, efficient to use, and more current than books, which take a long time to write and manufacture. Furthermore, the editorial processes at the newspapers, magazines, and journals indexed in the databases are typically rigorous. Such editing represents major investments of time and money. It involves multiple readers, fact-checking, quote-checking, and even background-checking of
quoted sources. With so many people not only checking content but staking their professional reputations on quality and credibility, such materials clearly deserve preference.

Jack knew that his research about ethanol would have to include advocacy sites on the Web, from both ethanol producers and ethanol skeptics. But he also knew that the diversity of opinion made it all the more important that he find reliable, edited sources that could provide recent discussions. He knew that although even reputable journalists might favor one perspective over another, if they want to get their stories in print and if they want to have continued access to their sources, they need to report all points of view fairly. In the end, he brought in pro-ethanol advocates primarily through news sources and used just one anti-ethanol source directly from the Web site of an organization referred to in a New York Times article. (See paragraph 6 of Jack's paper.)

**Library Databases and Web Search Engines**

Library databases (such as ProQuest or Lexis-Nexis) and Web search engines (such as Google, Yahoo!, and Bing) will lead you to significantly different types of material because they search different parts of the Internet. Libraries pay substantial subscription fees for the password-protected database services that give you access to electronic archives of print periodicals—magazines, trade journals, scholarly journals, and major newspapers. “We pay for quality,” librarians at public and university libraries commonly stress. In contrast, Web search engines access the free-access part of the Internet. You can use these search engines without charge because their revenue comes from advertisers. Within seconds they will accumulate for you an overwhelming number of potential sources, many of them unreliable, unrelated to your purposes, and probably redundant. Indeed, even those links that do appear helpful might no longer be working, or might take you to a Web site where that promising article or report is no longer available. Remember this: the search engine algorithms that measure popularity are not good measures of reliability.

In contrast, initiating a search in a library subscription database sets off a search of the indexes and archives of sources recommended by experienced researchers and experts in a wide variety of fields. The focus is primarily on print sources, but some databases now index materials from radio and TV broadcasts and reputable blogs. See, for example, the “source types” in Figure 5.1, the “Easy Search” screen of the LexisNexis database. In addition, audio and video materials are frequently archived and indexed through the Web sites of television and radio networks, most notably National Public Radio and the PBS NewsHour (sources that Jack found helpful).

As our last point about TV and radio resources should confirm, we are not recommending that you shun material published on the Web. Doing so would be a big mistake. Jack needed to know what was being said on the Web sites of ethanol advocates as well as environmental activists. Many Web materials have undergone rigorous editorial processes; furthermore, highly reputable print periodicals often publish major articles on the Web. Some sites, such as nytimes.com, have far more resources available on the Web than in print editions. Nonetheless, for consistent reliability as well as for the sake of efficiency in searching and evaluating, we recommend starting with periodicals to which your library subscribes through a database.

Some specialized databases are available only on CD-ROM in the library itself, but the extensive databases of general interest materials are stored on computers that may be miles away from the library. While these computers are conducting your search, they might also be conducting a search on behalf of your best friend from home, who is attending school in another state. When you use these databases from campus, they may seem to be as free of cost as a Web search engine; however, be assured that libraries do pay substantial subscription fees to the database companies. That is why access to them is password-protected and why access is typically restricted from off campus.

Periodicals databases are indexed according to traditional bibliographic categories (author, article title, publication title, etc.) as well as by specialized key words connected to subject matter. When you enter your search terms, the database checks these indexed categories along with article abstracts and key

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Footnote:

1 We follow the practice of using “Internet” to refer to the entire network of linked computers around the world and “Web” to refer to material available through the graphical interface used by browsers such as Firefox, Internet Explorer, Safari, Chrome, and so forth.
Tip #3. Weigh Questions About Relevance

You can often determine the relevance of a source to your project just by examining the bibliographic information provided in library catalogs (for books) and databases (for periodicals). Use the bibliographic information to answer the following three basic questions about a source’s purpose and method:

1. **What ideas and information does this text offer?** Examine the title, subtitle, and abstract. Does the information indicate what kind of source it is (scholarly, trade, etc.)? You can make good guesses about an article’s approach and intended audience on the basis of what you already know or can discern from the periodical and article titles. For books, a table of contents may be available in the online catalog along with the name of the publisher.

2. **Can I trust the source of information?** Again consider what you know or can gather about the credentials and reputation of the author, publisher, or Web sponsor. Remember that university presses are particularly reliable. On the Web, click the Home and About Us tabs for information about the site sponsor (now required information for Modern Language Association [MLA] citations). If there is no evidence of a reputable site sponsor, do not use the source. (Note: Material from an individual’s home page is not usually acceptable for academic papers, no matter how impressive it may appear. Links from such pages may uncover useful and reliable sources, however.)

3. **Will I be able to understand what the source says—was it written for someone at my level of expertise?** Draw inferences about the intended readers from the title, publisher’s reputation, and an abstract or table of contents, then spot read as needed. If the article is full of technical material, concentrate on making sense of the abstract and conclusions sections.

Tip #4. Ask a Librarian

Librarians know where to find things and how to narrow searches. They can tell you which database to look in to find local news coverage of the effects of the emerald ash borer beetle, for example, and they usually know which database offers full-text articles from a certain journal and which offers only abstracts. Some journals and magazines are selective about the databases to which they provide access, or full-text access, and librarians will know which database is the best to consult for different types of subject matter. They also can offer good suggestions for trade publications related to something that interests you, or for alternate subject/search terms, such as “capital punishment” versus “death penalty,” including which databases use which term.

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3 For Web sources, it is important that you examine the actual source, not just the link supplied by the search engine.

4 By "site sponsor" we mean the organization behind the Web page, not advertisers on it.
Tips for Evaluating Sources

Once you have narrowed down a list of potential sources, the tips and questions in this section will guide your evaluation of texts you are considering as possible sources and will help you use your rhetorical reading skills to infer the original context and purpose of potential sources. The two over-reaching issues are these:

• How will a given source help you answer your research question?
• How can you use the source in your own writing?

Tip #5. Read the Abstracts and Conclusions Sections of Scholarly Articles

In the academic world, the most highly regarded periodicals are peer-reviewed journals, also known as refereed journals and scholarly journals. These journals only publish articles that have been approved by several experts as meeting high scholarly standards and contributing to new knowledge. They rarely publish advertisements. These high levels of credibility make such journals excellent sources for college papers. Their drawback is that material written for experts and scholars may be difficult for readers outside the field to understand. However, even if you cannot understand all the details in material from scientific journals such as the New England Journal of Medicine or JAMA, reading the abstract, background, and conclusions sections of a given study may provide you with better insights about the complexities of the findings than will a short news report.

Tip #6. Examine a Text’s Currency and Scope

Take your initial evaluation further by using bibliographic information about date of publication and length to judge how usable the material may be for your purposes. Abstracts may help you catch a publication’s tone and scope, but you can get better information by spot reading in the full text, which will help you judge the intended audience. In library databases, examining a PDF version of the article, if available, is ideal because the images of actual pages from the periodical will reveal layout, illustrations, and advertisements, all cues to the publication’s genre and audience. If PDF is not available in the database you are using, try another of your library’s periodicals databases. In some cases, you may have to go to the stacks to find paper copy to skim in order to determine whether a source that seems promising will actually be valuable for your purposes. (Note: We caution you not to rely solely on any database’s abstract in place of the source itself. They are often written by nonexperts who may leave out important facts and context, or who may be sloppy about indicating when they are quoting or the extent to which they are paraphrasing. Any of these factors could lead to embarrassment for you, or worse.)

Use the following questions as a guide:

1. How current is the source in relation to your research question? You will usually want the most recent information available, but if you are researching a historical phenomenon, “current” must be balanced with “relevant,” and thus does not necessarily mean “recent.”
2. How extensive is the source? How much detail is present? What kind of evidence is used? A twenty-page article contrasting American and Japanese management styles might be just what you need, or it might be far too detailed for your purposes. A cheery three-paragraph piece in Glamour or GQ about the value of regular dental checkups might enable you to make a point about the treatment of dental hygiene in popular magazines, but it won’t tell you much about the affordability of dental care.

Tip #7. Check Authors’ and Experts’ Basis of Authority

Your background knowledge about subject matter and sources will often help you answer questions about an author or expert’s trustworthiness. When you need more information, skim the source for information, look for a biographical note about the author (possibly elsewhere in the publication or on the Web site), or try other available search tools. Once you have selected certain materials to read in depth for your project, use them to consider the following questions about credibility:

1. What are the author’s credentials and qualifications regarding the subject? See what you can learn about this person’s professional expertise. (You may start recognizing names that come up regularly.) Is the writer an expert in the field? A journalist who writes about the subject frequently? An abstract or a note at the end of a full-text article may supply biographical information. A quick search by author (perhaps via a click on the name) will show you what this person has written recently for the same periodical. You might discover, for example, that the author of a piece on rap music is not an expert on rap or hip-hop but does regularly write about the business side of the entertainment industry. This discovery may signal that the article is not likely to help you if you want to write about rap music’s roots in the African-American folk tradition, but if you are interested in how rap has been marketed over the years or how it fits into the larger entertainment market, additional articles by this author may lead to just what you need.

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2The glossary for the library subscription database ProQuest distinguishes between “peer-reviewed” journals and “scholarly” journals, limiting scholarly to journals written by and for academics and published by professional associations or university presses. Most articles (but not all) in scholarly publications are peer-reviewed, as are articles in many trade publications.
2. What are the credentials and qualifications of experts who are cited? In general-circulation periodicals (newspapers and newsmagazines), the writer's expertise is probably less important than is the expertise of the sources interviewed. Gathering information about the people quoted in an article usually requires skimming to see what background information is supplied. Using a database to look for material written by those experts can lead to more in-depth sources and confirm their reputations.

3. What can you tell about the writer's or expert's political views or affiliations that might affect his or her credibility? You are more likely to uncover this information in the text than in the citation. (Much of the time you will have to use your rhetorical reading skills to infer the writer's ideology—see Chapter 4.) If the purpose of your paper dictates that you need to find out more about a writer's ideological biases, a quick search in Books in Print, in a biography database, or on the Web will probably tell you what you need to know. You might learn, for example, that a particular writer recently received an award from the American Civil Liberties Union (on the left) or the Heritage Foundation (on the right), or you might discover that a medical expert interviewed about the dangers of plastic surgery is a well-known celebrity doctor. It will be up to you to determine the extent to which this information adds or detracts from the person's credibility in relation to your research questions and purposes.

**Tip #8. Consider the Reputation of Publishers and Sponsors**

Crucial information for evaluating a source can become apparent when you examine the purposes and motives of its publisher. Regardless of whether you access the source on paper or on the Web, it is important to consider how and why the material has become available in the first place. The following questions about audience, review process, and reputation will help round out your process of evaluating potential sources.

1. What is the periodical's target audience—the general public or a specialized audience? Is it known for providing good information about the subject that interests you? If you are researching antidepressants, for example, you will find that articles in popular magazines are often upbeat about their value. You'll probably find more reliable information about the side effects of drugs in specialized magazines or medically oriented journals.

2. How extensive a review process did the article have to undergo before it was published? Is it from a scholarly journal? Increasing numbers of print periodicals, particularly newspapers, post material on the Web, and you can rely on their editorial processes regarding material found on their sites. Nevertheless, it's also important to remember that general circulation publications and news sites are driven by marketplace concerns. Editors choose articles that will help sell copies (or draw eyeballs) because increases in circulation and clicks will increase advertising revenue. Beware of overstatement.

3. Is the publisher or site sponsor known to have a viewpoint that might influence its coverage of material that is relevant to your question? We have previously noted that books published by university presses can be assumed to be reliable, for example. Nonetheless, be alert for political biases, not because you can avoid bias but because you may want to be sure to consult sources with different leanings. A wide variety of nonprofit, public service, and governmental entities have extensive and useful Web sites. Consider how an organization's mission may influence its Web presentations. If you use material from an organization known for supporting certain causes or positions, scrutinize it carefully for the effects of bias. If you let your own readers know relevant information about a source's reputation (something that might not be obvious), you will be demonstrating that you are knowledgeable about that reputation.

**More Excerpts from Jack's Research Log**

To illustrate how a student might apply these evaluation strategies to a research project, we conclude this chapter with more items from Jack's research log.

**Evaluating Sources**

1. **Update on My Searches**
   - Searched for “ethanol” in ProQuest, the Web, and in “Times Topics” at nytimes.com. I found 100's of articles, and by spot reading or skimming them, I have discovered that my question is too simple. Uncle Clyde and Uncle Johnny are both right, but by going all out with corn hybridized for ethanol, Johnny is taking the bigger risk if the bottom falls out of the ethanol market because of oil prices or a bad economy. I had no idea there were so many organizations (lobbies, I guess) with a stake in this.

2. **Best Sources So Far**
   - "Archive of a Chronicle of Higher Education" online discussion with an Iowa State engineering professor about biofuels—his answers to questions give good information, but it's the questions themselves that are helping me focus. (Bookmarked—may print it so I can see it better.)
   - Relevance? Provides great overview—I'm learning a lot from it that fits into the more news-based articles. Trustworthy, yes.
   - Currency and Scope? Covers many bases, which is why I like it. It's from 2007, but I haven't found anything since that is as clear from the scientific POVs. (Did talk to a librarian.)
   - Author and experts quoted? Good—it's all from one academic expert, not an advocate. He seems cautious. Important quote: "Ultimately, we cannot..."
Chapter Summary

This chapter has described how rhetorical reading skills will help you succeed in two of your key tasks as a researcher: formulating questions and evaluating resources. Because college teachers expect students to demonstrate their own thinking about a given research question, successful academic papers are those in which the student's claims and commentary are more prominent than material from research sources.

To assist your pre-research and research processes, we discussed the following:

- The importance of approaching a research project with a clear sense of purpose and careful planning
- The skills needed to develop information literacy
- Question analysis (QA) prompts to use before you begin an active search for sources
- The differences between searching for sources through library subscription databases and through Web search engines
- The differences in publication and editing processes for different kinds of both print and Web sources

We offered tips for finding and using reliable sources, including consulting with a librarian, and recommended that you evaluate potential sources by asking specific questions about a potential source concerning its relevance to your project, its currency and scope, the background and reputation of authors and experts, and the credibility and likely biases of publishers and Web page sponsors.

To illustrate these processes, we provided excerpts from Jack's research log.