

## Information Literacy Part One: Determining What Information You Need

### A. Defining Information Needs

An important part of both Information Literacy and the research process is being able to identify when you need information. Several steps are often involved to define an information need successfully.

#### Understand the Assignment

First, understand the given assignment. This may seem obvious or self-explanatory, but the key words of the assignment will provide a number of clues that will be important to understanding what is needed to complete the assignment both accurately and well.

Are you being asked to argue a perspective, present a viewpoint, analyze or evaluate data or other information, or compare/contrast? Each of these tasks involves particular strategies and information needs. Ask any questions you may have in order to get clarification.

#### Choose a Topic

You may be given a specific topic, you may have a choice of several topics, or you may be asked to come up with a research topic of your own. If possible, choose a topic that you have some personal interest in examining; however, recognize that learning to work with topics with which you are unfamiliar or in which you have no personal interest is a significant part of a university education. Keep an open mind.

#### Subjects vs. Topics

A subject is a grouping of keywords: “domestic violence” is a subject, and a broad one. A subject doesn’t identify what you are going to do with or say about your keywords.

A topic states in a sentence or two what about your subject you are interested in addressing. Consider the differences between the subject “domestic violence” and the more defined topic: “the relationship between alcohol consumption and domestic violence rates in New England.”

Phrasing a topic as a question can help you further understand what you are trying to answer or prove: “what is the relationship between alcohol consumption and domestic violence rates in New England?”

## Scope

Carefully consider the relationship between the scope of the topic and the scope of the assignment. A narrow topic might not provide enough material on which to write a ten-page paper; similarly, a broad topic might provide too much material on which to write a five-page paper.

The topic, “What is the domestic violence rate in Manchester, NH for 1994,” is too narrow to write about in a five-page paper.

The topic, “What are the factors that contribute to domestic violence,” is too broad because it suggests that the writer will examine a wide variety of factors that contribute to domestic violence across the country or across the world.

If you start to research your topic and find either too much or too little material to fit the scope of your assignment, you may need to go back and adjust your topic accordingly. Elements to reconsider might include the *time period, geographic location, point of view, or the population under consideration*. Ask your instructor to evaluate your topic early in the process to ensure it is appropriate to the scope and purpose of the assignment.

## Identifying Synonyms and Alternative Terms

As you begin to identify what you will research, another important early strategy is to identify synonyms and alternative terms for the significant keywords in your topic:

<b>alcohol</b>	<b>consumption</b>	<b>domestic violence</b>	<b>New England</b>
drinking alcoholic	use abuse alcoholic binge drinking	family violence abuse children /wife / husband home	Northeast New Hampshire other NE states

Different search tools, authors, and materials may use different vocabulary to describe similar ideas. Stay flexible and try different terminology in different sources.

## Identifying Appropriate and Available Information

Now that you have a good grasp of the assignment and have identified a topic, keywords, synonyms and alternative terms, the following series of steps can help determine the direction your research will take:

1. Identify what you already know about your topic. Maybe you know some, maybe you know a lot, or maybe you know very little.

2. Identify what you want to find out, answer, respond to, or produce. This might involve finding background or more in-depth information, or learning concepts or principles.
3. Do you need to conduct an experiment, access library materials either locally or via Interlibrary Loan, or interview an expert? You might find yourself asking questions, such as "where can I find statistics on alcohol use in New England?" or "what is the best source for information on rates of domestic violence?" This step will define your information needs.

It may be helpful to understand what sorts of information can be found in what formats. The following list is not comprehensive but provides some examples:

- **Articles**, found in newspapers, magazines, journals or other periodicals: articles are short, focused studies or reports; they may be geared toward a popular audience or an expert or scholarly audience; they may be available in paper or electronic format. Articles will contain the latest information known at the date of publication and may contain interpretations of recent events.
- **Books**: lengthy studies on one or more subjects. Most books are still available only in paper form, although eBooks and older texts in the public domain may be available electronically. Books take a considerable time to produce and publish and so are not likely to contain information on immediately current events, but are good for in-depth information and analysis.
- **Microform**: the format for materials such as older newspapers, journals, dissertations, and historical documents, which are reproduced on film or fiche for easier storage. Microform materials are read on microform readers in the library.
- **Web pages**: this material could be bleeding-edge current or historical; it may be written for a popular or scholarly audience; and it may be difficult to determine the authority, currency, validity, and accuracy of Web material, so careful evaluation is necessary!

Some information may be difficult to find or may not exist in a form or format that is easily usable. You may also need to create your own information by conducting interviews, surveys, or experiments. Ask your instructor or a librarian for help in finding the information you require.

4. Gather and analyze the information you have collected. Do you have enough material to answer your research question? Is the material of suitable quality to use in academic research? Do you need to adjust your topic, or gather more information? You may need to repeat the earlier steps before proceeding.

**Note:** If you plan your research carefully and can articulate your information needs to others appropriately, you will gather the right amount of relevant and useful information

effectively and efficiently and will avoid spending time acquiring too much irrelevant information.

**WARNING ABOUT ONLY USING THE FREE WEB FOR RESEARCH:**

Understanding how to research a topic thoroughly, and using a variety of sources, shows proper attention to the research process: it avoids repeating scholarship that has already been done or neglecting scholarship that may conflict with your findings. For this reason, sources must be chosen for their intellectual validity and authority (whether they support or refute your claims) and not randomly or unreflectively.

This is why doing “research” exclusively on the free Web (as opposed to using carefully selected library resources in print and electronic form) is unacceptable in a university environment.

Remember: Good research takes time, and patience is required to locate appropriate types and quantities of resources. Plan your time carefully to dedicate sufficient time to your research.

## B. Recognizing Primary, Secondary, and Tertiary Sources

Instructors may ask that you specifically use primary or secondary sources in your research. This lesson describes these terms and provides examples of each.

Note: the lists below provide examples only and are not intended to be inclusive.

### Primary Sources

Primary sources are original materials or raw data created by an individual, a team, or an organization. They are contemporary to events as they happen and have not been interpreted or evaluated by others.

The television footage of the Hurricane Katrina humanitarian crisis in New Orleans, filmed first-hand while the events were unfolding, is an example of primary source material.

Other examples of primary sources include:

- Newspaper accounts (reporting)
- Official memos or notes
- Letters or diaries
- Speeches
- Autobiographies
- Interviews (legal proceedings, personal, telephone, email)
- Original documents (birth certificates, court transcripts)
- Proceedings from conferences, meetings, etc.
- Dissertations (original scholarship)
- Journal articles that publish original scholarship
- Literary works: poems, plays, novels, non-fiction essays, short stories
- Weekly or monthly-produced magazines
- Patents
- Statistics
- Surveys or polls
- U.S. Census records
- Maps
- Photographs or posters
- Performances (dances, plays)
- Sculptures, models, and objects
- Television shows
- Music
- Films

## Secondary sources

Secondary sources are those that analyze, interpret, comment on, or discuss primary sources. They are published after the fact of the original event, and tend to be argumentative or to present a specific perspective. Examining the footnotes, references cited, or bibliographies of secondary sources can often help locate primary sources.

A commentary about the Hurricane Katrina humanitarian crisis in New Orleans, written after the events had occurred, is an example of secondary source material.

Other examples of secondary sources include:

- Encyclopedias (particularly those with signed articles)
- Biographies
- Journal articles that comment on previous scholarship
- Scholarly periodicals and books that synthesize or analyze results of primary source information
- Dissertations (commentary on other material)

## Tertiary Sources

Tertiary Sources are collections or distillations of primary and secondary sources. Tertiary sources tend to be factual in nature.

A bibliography of all the articles written about the Hurricane Katrina humanitarian crisis in New Orleans collected over the course of the first year after the event is an example of tertiary source material.

Examples of tertiary sources include:

- Annuals
- Almanacs
- Abstracts
- Digests
- Directories
- Guidebooks
- Indexes
- Handbooks, fact books, manuals
- Encyclopedias (especially specialized encyclopedias on a specific subject)

**Note:** disciplines use and value these sources differently, and some of the sources above could be listed in more than one category. See below for more information.

## Disciplinary Distinctions

	Primary Source	Secondary Source	Tertiary Source
<b>English</b>	Poem	Scholarly article interpreting poem	MLA Bibliography
<b>History</b>	Newspaper account	Book about World War II	Encyclopedia on World War II
<b>Art</b>	Original photograph	Scholarly article considering context of photograph	Directory of U.S. art installations
<b>Political Science</b>	Text of a law	Essay on effectiveness of law	Law encyclopedia
<b>Science</b>	Original research presented in a journal article	Scholarly article applying research to problem	Annual of Physics conference proceedings

Chart based on Primary Sources at the Library of University of California Santa Barbara:  
<http://www.library.ucsb.edu/classes/int1schroeder/primarysecondary.pdf>

Consider carefully how a source is being used and where it falls on the cycle of knowledge creation. Remember that original scholarship is always considered a primary source, but where that scholarship appears could on its face appear to be a secondary or tertiary source.

For example, a literary scholar could read a journal article on an interpretation of a novel that could inspire her to write a new journal article from a similar perspective on another novel.

In this case, what is typically considered a secondary source (journal article) could be understood as a primary source for the later research. Similarly, a new bibliography might provide access to heretofore unavailable materials and could therefore be considered a secondary source for a scholar using that newly available information for the first time, although a bibliography is often considered a tertiary source.

If, within the context of your assignment, you need help determining whether a source is primary, secondary, or tertiary, please ask your instructor or a librarian.

### C. Recognizing Popular, Scholarly, Peer-Reviewed, and Trade Journals

In the course of your research, you will need to consult a variety of sources for information. Instructors may ask that you distinguish between popular, scholarly, peer-reviewed, or trade journals. This lesson describes these terms and provides examples of each.

**Note:** each category of journal will have a majority but not necessarily all of the characteristics listed.

#### Characteristics of Popular Journals

The following are among the characteristics of popular journals:

- Written for a broad general audience using basic everyday language
- Contain many advertisements
- Contain many graphics
- Printed on glossy paper and have an enticing appearance
- Articles are generally short and may be unsigned
- Articles usually contain no cited sources or bibliography
- Printed by commercial publishers
- Often issued weekly or monthly
- Page numbers start over with every issue
- Purpose is to entertain and sell products through advertisements

**Examples:** *Time*, *Newsweek*, *People*, *Sports Illustrated*, *Rolling Stone*

It is typically not acceptable to use or cite popular journals in scholarly work, but certain assignments may necessitate using them. Ask your instructor if you are unsure whether using popular materials is permitted.

#### Characteristics of Scholarly Journals

The following are among the characteristics of scholarly journals:

- Written for a specialized, professional audience using formal, scientific, or complex language
- Contain few (if any) advertisements but may contain charts or graphs
- Article sources are cited in footnotes or a bibliography
- Printed on matte paper and have a serious appearance
- Articles are generally longer, are signed, and include author's scholarly or professional affiliation
- Printed by university presses, disciplinary societies, associations, and other professional entities
- Often printed monthly, quarterly, or annually

- Page numbers often continue across an entire volume of issues
- May contain instructions for submitting articles
- Titles are often formal and contain the words “Journal,” “Quarterly,” “Transactions” or terms from the subject field
- Purpose is to share original research in the subject field among scholars

Examples: *JAMA: Journal of the American Medical Association*, *American Literary Realism*, *Nature*, *Annals of Physics*, *Annual Review of Anthropology*

### Peer-Reviewed Journals

Your instructor may ask specifically that you use "peer-reviewed journals." Peer-reviewed journals are those that have had their scholarly articles vetted by professional peers of the author (working in the same or an affiliated field) and judged by an editor or editorial board to be sufficiently scholarly and original prior to publication.

Not all journals are peer-reviewed, but all peer-reviewed journals are scholarly.

**Important:** Some items in peer-reviewed journals, such as news, advertisements, and book reviews might not have gone through the review process.

Further, an item, such as an article or a book review, may be included in a scholarly journal because the author has been invited to contribute to the issue. Such an item may not go through the formal review process because the author is already recognized as a significant scholar in a field.

### Characteristics of Trade Journals

The following are among the characteristics of trade journals:

- Can be considered a hybrid between popular and scholarly journals
- Contain advertisements that are focused on a particular field
- May contain flashy graphics similar to a popular magazine
- May be published on glossy paper
- Provide information on a particular trade or industry

Examples: *Computerworld*, *Advertising Age*

**Note:** Consider the content and authority of authors carefully to determine whether trade journals are appropriate to use in scholarly research.

If, within the context of your assignment, you need assistance in identifying whether a source is popular, scholarly, or a trade publication, please ask your instructor or a librarian.

## D. Recognizing the Value of Non-Peer-Reviewed and Other Information

In the course of your research, you will likely want to consult a variety of non-peer-reviewed and other sources of information. This lesson describes a variety of these sources and provides examples of each.

### World Wide Web

The vast number of pages on the World Wide Web are not peer-reviewed: anyone can create a Web page and put it online. Careful evaluation and scrutiny is needed to determine whether a Web page contains information scholarly enough to be used in university research. Nevertheless, a great deal of useful, information can be found online, including:

- Association and disciplinary society information: important as one source for locating biographical information, calls for papers, and professional job listings
- Auction, shopping, and equipment supply sites
- Discussion lists and blogs
- Government and organization information
- Images: besides sites like Google Images, many museums have images of their collections online
- News: local, national, international, and discipline specific
- Online help and user manuals
- Phone books and directories
- Software: freeware, shareware, and for-fee programs
- Subject gateways and portals
- Teaching tools, lesson plans, and examples
- University information, including faculty and department information

### Other Information Sources

Valuable information can be found in other non-peer-reviewed sources, including those on the list below. Some could be biased, so careful evaluation is necessary:

- Newsletters
- Calls for papers
- Advertisements
- Statistics, surveys and polls
- Maps
- Newspapers
- Television and radio broadcasts
- Professional conferences
- Conversations: interviews, emails, letters

Many of the resources listed above could be considered informal sources of information, but within the realm of professional scholarship, all may be intellectually valid depending on the content and the context. Some information, for example, may not be available through any other source.

If, within the context of your assignment, you need assistance in identifying whether a non-peer-reviewed or informal source is appropriate to use in your research, please ask your instructor or a librarian.

## E. Logistics: Access and Barriers to Finding Information, Cost, Value vs. Time, and Knowledge Management

In the course of your research, you may encounter various issues related to how you access information, and you may need to overcome certain barriers to acquire the information you need. You should be aware of the costs associated with information and the relative value of free vs. for-fee content, and you will want to consider the value of information versus the time and effort it takes to acquire and use it. You will also want to be aware of knowledge management tools you may need to keep track of the acquired information. This lesson discusses those issues.

### Access to Information

As a member of a university community, you are automatically granted access to a great deal of information, including information available in and from the Shapiro Library: this information includes books, newspapers, journals in paper and electronic form, databases, microform, foreign language materials, and other resources. These Library holdings can be accessed most readily in person on campus, although a variety of materials are increasingly available in full text online, including a host of journal articles available in periodical databases.

Access to some databases is limited to a certain number of people at a time ("seats"); if more than the licensed number of people try to use the database at the same time, access will be blocked until someone logs off. Access to some databases may be limited to students in a particular field; there may be some business databases, for example, that are password protected and not offered to all students across campus.

Sometimes, access to databases is limited to current members of the scholarly community exclusively, which prevents former students, even alumni, and members of the public at large from using them. Very often off-campus access to databases is granted to SNHU members through remote access, although some license agreements stipulate that access be limited to on-campus use only.

You also have access to Interlibrary Loan to obtain a multitude of items (books, journal articles, and other media) that the Shapiro Library does not own. See <http://www.snhu.edu/1957.asp> for more details.

You may need to access materials from outside of the SNHU community: corporations and organizations provide access to a variety of information via their Web sites, by written request, or by personal visit.

You may also need to visit nearby libraries, galleries, or collections to access materials. Sometimes a research trip to a more distant library or collection is necessary to acquire needed information.

## Barriers to Accessing Information

You may encounter a variety of barriers to accessing the information you need. Time could be a factor: for example, using Interlibrary Loan to acquire materials can take several days.

Some materials may be held in libraries but may not be cataloged and so may be undiscoverable or even inaccessible for scholarly research.

Some materials may be in formats that are not transferable or that need further data manipulation in order to be of use.

Corporations and organizations may not have information in an easily usable form or format. Some information may be proprietary or otherwise unavailable for public use.

Some international materials may not be available except in their home institutions, which would necessitate an expensive and lengthy research trip abroad.

In order to accommodate as many obstacles as possible, plan ahead for access barriers by starting projects sufficiently and try to find alternative information sources when necessary.

## Cost of Information

Much of the information you use may *seem* to be free, but there are costs associated with almost all information. You may be paying indirectly even if you are not paying up front for access.

Library resources have been specially selected by librarians whose expertise informs their decisions regarding what materials should be available to their scholarly community. Journals, books, and other material can be very expensive, especially those items on subscription that must be paid annually or over multi-year periods. These materials include library databases and electronic resources that are paid for by license agreements that stipulate both what materials are included in a resource package and how those resources can be accessed. The cost of database licenses is generally borne by the participating library or libraries.

Interlibrary Loan is a service by which books not available at the Shapiro Library can be obtained from other libraries across the country. Again, this is not a service that students pay for directly, but the cost is borne by the library in order to provide access to as wide a selection of materials as possible.

In sum, many thousands of dollars are spent annually to pay for what may seem to be "free" library materials and services.

## For-Fee vs. Free Sources of Information

Outside of the library, corporations and organizations produce information for which they might charge for access. Before you pay for information, however, investigate to ensure that the materials are not already available in the library or through a service such as Interlibrary Loan. Some companies may not allow access to information at all, such as proprietary information that contains a company's trade secrets.

You may find information free on the Internet; however, you need to consider carefully whether the information is appropriate for your scholarly research. Information on the Internet may be outdated, invalid, biased, or untrue. For example, many .com sites are e-commerce sites designed to persuade viewers to buy their products; information presented on these sites may not be balanced or trustworthy.

Remember, very often you get what you pay for. Consider the advantages of library-based information that has been selected by experts.

## Value vs. Time

There are some things that may be available but may take a long time to acquire, or items may be available but take a long time to use. Consider for example having to scroll through days of newspaper issues on microfilm looking for a specific article, ad, or photograph without having a specific citation to work from, or spending hours and hours looking for a piece of information that in the end is not a significant part of your project or paper.

Keep in perspective both the time it takes to do research and the size of your project. Consider carefully not only what your own time is worth, but what the value of the information is in relation to the size of your project.

Remember: good, thorough research takes time. Start early especially in order to identify items that will take time to acquire (ILL, etc.) or use (microfilm).

## Knowledge Management

For a small project where only a few sources are needed, keeping track of the sources and citations may be as easy as keeping a list in a notebook or on index cards. But when larger projects necessitate keeping track of tens, hundreds, or even thousands of sources, knowledge management tools become essential.

Knowledge management tools are Web-based applications or stand-alone software programs into which citation information can be placed for easy search, retrieval, and formatting into Works Cited lists and bibliographies. These will become increasingly helpful as your projects get larger, more sophisticated, and more complex as you move through your university experience.