3. Planning your research

In this chapter

- Nature of research
- Types of information sources and their uses
- A research scenario
- Topic analysis

Planning is one of the best investments you can make in the research process. A methodical approach ultimately saves time and ensures that you find appropriate information and a variety of sources.

Nature of research

In libraries we use the term research in two closely related ways. First, research refers to the process we use to obtain the information we need to answer a question, solve a problem, or enrich our understanding of something. Second, research refers to the published reports produced by researchers who have addressed countless questions, over many centuries, in every part of the world. By collecting and providing access to published research, libraries provide the researchers of today with the opportunity to use and build on the knowledge already gained by others. When we conduct research, we enter a community of researchers whose work is represented by the materials we find in the library.

Why research?

We engage in research because we need or want to know about something. Some research has a practical purpose. A business person, for example, gathers statistics to determine if there is a market for a new product. A doctor consults medical journals to solve a health problem. Other research may be motivated simply by the desire to know. A paleontologist explores theories about what caused the extinction of dinosaurs. A literary scholar examines themes in early American poetry. Whatever the specific purpose, research begins by identifying something we want to know.
Creativity and flexibility

Planning and conducting research requires creativity and flexibility. Research often involves using a variety of information resources. Researchers must decide what resources are needed and how to locate and use them. Even when it is carefully planned, however, research may take unanticipated twists and turns. Some avenues of exploration may be productive, others not. Creativity and flexibility are, therefore, important in research because they enable researchers to alter plans and find solutions to research problems.

Types of information sources and their uses

Different kinds of information resources meet different research needs. In planning a research project it is important to determine what types of resources will supply suitable information. There are several broad categories of information resources.

Scholarly and popular sources

All of us are familiar with popular sources of information such as the Honolulu Advertiser or Newsweek. These include newspapers, magazines, books, and other resources that inform, entertain, and are widely available to the public. They are written for a general audience and do not use highly technical or specialized language. Because they are often commercial publications, they contain numerous advertisements and are colorfully packaged to promote sales. The authors may not be identified, and when they are, their credentials are frequently not given. Sources of information are probably not cited, and there are usually no notes, lists of references, or bibliographies.

We may not be as familiar, however, with scholarly sources of information. Scholarly publications generally report the results of research. They are written for other scholars and often use technical language that may be difficult for readers not familiar with the subject to understand. They are not packaged for wide sales and contain few if any advertisements. The authors are experts and are identified. Their credentials, such as degrees or university positions, are provided. Sources of information are cited, and there are usually notes, lists of references, or bibliographies. In order to be published, scholarly works usually undergo a review by experts to determine if the research meets the standards for the field. Scholarly journals that require such expert review are often referred to as peer reviewed or refereed journals.

The next table compares the main characteristics of scholarly journals and popular magazines.
### Comparison of scholarly journals and magazines

<table>
<thead>
<tr>
<th></th>
<th>Scholarly Journals</th>
<th>Magazines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To report original research or experimentation</td>
<td>News, current events, popular interests (news, opinion, and popular magazines)</td>
</tr>
<tr>
<td><strong>Title</strong></td>
<td>Descriptive and informative</td>
<td>Catchy subtitle or sentence</td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td>Specialized terms; serious tone; discipline specific language; assumes some scholarly background on part of reader</td>
<td>For general readers</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>Quarterly; semi-annual; annual</td>
<td>Weekly; monthly</td>
</tr>
<tr>
<td><strong>Additional material</strong></td>
<td>Charts; graphs</td>
<td>Illustrations; photographs; many advertisements</td>
</tr>
<tr>
<td><strong>Citations, notes and bibliography</strong></td>
<td>Almost always has citations, notes and bibliography; often long; almost always has references to scholarly or technical material</td>
<td>None or short; may have references to other general material</td>
</tr>
<tr>
<td><strong>Author(s)</strong></td>
<td>Scholar in the field; credentials given (degrees, present/past positions)</td>
<td>Briefly identified or not identified</td>
</tr>
<tr>
<td><strong>Publisher</strong></td>
<td>Professional association or society; university press</td>
<td>Commercial</td>
</tr>
</tbody>
</table>

### Primary, secondary, and tertiary sources

You may encounter the terms **primary**, **secondary**, and **tertiary** to describe different kinds of sources used in research. The specific types of sources to which these terms refer may depend on the scholarly discipline or even on the particular research project. In general, however, they can be defined as follows.

**Primary sources** provide first-hand knowledge of a subject. They may be the first records of events, original literary works, or other types of documents. Examples include novels, poems, correspondence, diaries, interviews, newspapers, and some kinds of government publications.

**Secondary sources** report the results of research based on primary sources or data. Authors often cite or quote secondary sources to support their own research. Examples include scholarly books and journal articles.

**Tertiary sources** are based on secondary sources and often summarize and explain research in a field for non-specialists. Examples include textbooks and reference works such as encyclopedias.

### Periodicals, books, and reference sources

Periodicals, books, and reference works each have characteristics that may make them suitable for particular research needs. Any of these information sources can be either popular or scholarly.

Periodicals are publications issued in successive parts, usually at regular intervals. They frequently contain articles or other relatively short, focused works written by different contributors. Examples include newspapers, newsletters, magazines, and scholarly
journals. They usually require less time to publish than books and are, therefore, often more current. If, for example, you need the latest research on a specialized topic, you will probably want to obtain articles from scholarly journals.

Books are longer than periodical articles and frequently cover a single subject or group of related subjects. They usually require more time to publish than periodicals and may not report the most current research. Books are often useful for obtaining full, detailed analyses of an area of research.

Reference works, such as encyclopedias or handbooks, are often less current than either books or periodicals. They summarize what is known on a topic and are useful for obtaining overviews, basic facts, and key concepts. If you are beginning a research project on an unfamiliar topic, a reference work may provide a good starting point.

**World Wide Web**

The World Wide Web may be roughly defined as Internet resources that are accessible using a browser such as Firefox, Safari, or Internet Explorer. Students sometimes begin their research by searching the World Wide Web. Because of the huge number of web sites and the wide variation in their quality, it may not be the most productive starting point. In general the web is useful for finding information about current events, about companies and other organizations, and information produced by the government. For a fuller discussion of the World Wide Web see page 6-4 of this handbook.

This table provides a guide for choosing sources of information.

<table>
<thead>
<tr>
<th>Source</th>
<th>Type of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspapers and Magazines</td>
<td>Information on current events</td>
</tr>
<tr>
<td></td>
<td>Information about popular culture</td>
</tr>
<tr>
<td></td>
<td>Articles for general readers (non-experts)</td>
</tr>
<tr>
<td></td>
<td>Expert and popular opinion</td>
</tr>
<tr>
<td>Scholarly Journals</td>
<td>Reports of scholarly research</td>
</tr>
<tr>
<td></td>
<td>Reports of specialized research</td>
</tr>
<tr>
<td></td>
<td>Reports of current research</td>
</tr>
<tr>
<td></td>
<td>References to other sources of information</td>
</tr>
<tr>
<td>Scholarly Books</td>
<td>Full, detailed discussion of research</td>
</tr>
<tr>
<td></td>
<td>Context and background for research</td>
</tr>
<tr>
<td></td>
<td>References to other sources of information</td>
</tr>
<tr>
<td>Reference Works (encyclopedias, handbooks, etc.)</td>
<td>Summaries of research for the non-expert</td>
</tr>
<tr>
<td></td>
<td>Overviews of a subject</td>
</tr>
<tr>
<td></td>
<td>Key concepts and terms</td>
</tr>
<tr>
<td></td>
<td>Important, useful facts</td>
</tr>
<tr>
<td></td>
<td>References to other sources of information</td>
</tr>
<tr>
<td>World Wide Web</td>
<td>Information provided by the library online</td>
</tr>
<tr>
<td></td>
<td>Information on current events</td>
</tr>
<tr>
<td></td>
<td>Information on companies/organizations</td>
</tr>
<tr>
<td></td>
<td>Information from the government</td>
</tr>
<tr>
<td></td>
<td>Expert and popular opinion</td>
</tr>
</tbody>
</table>
A research scenario

With so many sources of information the research process may seem bewildering, but it can be managed by breaking it down into steps. The steps may vary depending on the kinds of information you need at different stages of your research. The following scenario suggests a sequence of steps for a research project. You can modify the scenario to meet your needs. Each of these steps is discussed more fully in a subsequent part of the handbook.

1. **Topic analysis** (see page 3-5): Focus your topic, formulate a research question, and identify the terms you will use to begin searching for information.

2. **Finding books** (see page 4-1): Use library catalogs to locate books. Examine the books for references to other sources of information.

3. **Finding articles** (see page 5-1): Use periodical indexes to locate articles in periodicals. Examine the articles for references to other sources of information.

4. **Finding other information** (see page 6-1): Use resources such as reference works or the World Wide Web to locate other information (e.g., statistics, dates, or maps).

**Topic analysis**

Topic analysis prepares you to think about your topic in ways that will enable you to effectively use the right tools to find books, articles, and other information. The three steps discussed below will help you choose a topic, formulate a question, and identify search terms.

**Step one: choose your topic**

You can get ideas for topics in a number of ways. Here are a few suggestions:

— **Talk with your instructor:** One of your instructors may suggest a topic or may guide you in exploring your interests.

— **Explore your personal interests:** Your own interests are a great source of research topics. For example, you might pick some aspect of art, business, historical events, music, news and media, politics, popular culture, or sports.

— **Browse the table of contents and index of a textbook:** A textbook in your field of study or on your subject will list topics in the table of contents or index which may spark your interest in locating more in-depth information.

— **Read an encyclopedia article:** Information in an encyclopedia is organized to give easy access to information on almost any topic. Not only will you get an overview of a
subject, but also you will be introduced to key terms. Further, many encyclopedia articles end with selective bibliographies that list significant books related to your topic.

Tip

See the Bibliography for general and subject specific encyclopedias (pages Bibliography-5 and 6)

To focus your topic using an encyclopedia, try the following:
1. Find your general subject in the index (usually the last volume of the set).
2. Scan the subtopics listed under your subject in the index.
3. Turn to the appropriate volume and page of your general topic.
4. Scan the article. Note how the encyclopedia article is divided into subtopics.
5. Select a focus from the subtopics in the article.

Step two: formulate a question

Narrowing your topic is crucial. A topic that is too broad may result in a hodgepodge of isolated and unsubstantiated facts. A topic too technical may be difficult to research in the amount of time you have.

Formulating a question about your topic is one of the best ways to refine your thinking and narrow your topic. It makes you articulate all the key concepts of your topic and think about the context and scope of your topic. Think about this technique as a tool to manage your topic. You may find that you will change or modify your question as you learn more about and develop your topic.

Examples of topic questions/sentences might look like the following:

— How did the look of fashion change after World War II?
— How has electronic mail affected scholarly communication?

Step three: identify search terms

In order to find information on your topic in the library, it is necessary to identify key concepts and terminology to use in searching databases and other library resources.

A natural approach to identifying search terms is to start with the words and concepts from your topic question or sentence. The most important words are called keywords. They become your key concepts to work with. You will normally have 2, 3, or sometimes 4 key concepts for your topic. There are a number of ways to expand your concepts with the addition of synonyms, broader or narrower terms, and subject headings for specific databases.

1. Select keywords from your topic sentence/question. These become your key concepts to work with. For example:

   How did the look of [fashion] change [after World War II]?
2. Then think of synonyms or related words for each key concept.

<table>
<thead>
<tr>
<th>Concept 1</th>
<th>Concept 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>fashion</td>
<td>after World War II</td>
</tr>
<tr>
<td>clothes</td>
<td>1940s</td>
</tr>
<tr>
<td>clothing</td>
<td>1950s</td>
</tr>
<tr>
<td>dress</td>
<td>modern</td>
</tr>
<tr>
<td></td>
<td>post war</td>
</tr>
</tbody>
</table>

3. If your own brainstorming doesn't provide you with enough synonyms or related words, try using the following types of reference materials to get ideas for keywords. Also ask at the reference desk for the sources listed below and for suggestions of other thesauri or subject heading lists (for an explanation of subject headings, see page 4-6).

- An encyclopedia article
- *Roget's Thesaurus*
- *Library of Congress Subject Headings*

Example of a Library of Congress subject heading entry:

**Clothing and dress**

- Main subject heading: Clothing and dress
- Standard call numbers:
  - GN418–GN419
  - GT500–GT2350
  - TT507
- UF = terms not used: Clothes, Women's clothing
- BT = Broader topic: Beauty, Personal Manners and customs
- RT = Related topic: Costume, Fashion
- NT = Narrower topic: Dress accessories, Fashion shows
- Subdivision of main heading: Social aspects
Summary

In this chapter you have learned about planning your research. You have become familiar with why people do research and the need to be creative and flexible. You have also learned about the different kinds of information sources and their uses, such as scholarly and popular sources; primary, secondary, and tertiary sources; and periodicals, books, and reference sources.

You have been introduced to a typical research scenario where one explores a topic and identifies search terms. You also learned a method for analyzing and focusing a topic. Lastly you learned ways to broaden or narrow key concepts. You are now prepared to begin finding information in books, articles, databases, and reference sources in Part II of the handbook.

Workshop

Activities

1. Locate a popular magazine and a scholarly journal and compare their characteristics using the table on page 3-3. (You may need to get help at the reference desk to locate these.)

2. Choose a topic and analyze it following the guidelines in this chapter.

3. Choose a topic and find an article in a general encyclopedia about it. (You may need to get help at the reference desk to locate these.)

Questions

1. What is the purpose of a scholarly journal?

2. What distinguishes a "peer reviewed" or "refereed" journal?

3. What are some of the important differences between a scholarly journal and popular magazine?

4. You are writing a paper about the short stories of Mark Twain and your professor requires you to cite primary sources. What kinds of sources would qualify as primary?

5. You need an overview that summarizes research on a topic so you can identify key concepts and important facts. Should you consult a scholarly book, an encyclopedia, or a scholarly journal?

6. What are the three main steps outlined in this chapter for analyzing your topic?