Purpose: You’ll learn research steps to help you track a topic through the library, moving from a general subject to a specific topic.

Before You Begin: Select a Broad Topic

Select a broad topic that interests you. Although it’s a temptation to bypass Steps 1 & 2 of the Research Strategy Model and jump immediately to Step 3, this is ultimately counterproductive. By completing each step, you’ll be able to complete your research in a more logical, thorough, and efficient manner.

Background study guides on several broad topics are available from the McKay Library’s homepage. From the BYU–I home page, select “Library,” and then select “Subject Guides.” These topics have been partially pre-researched by library personnel to ensure that the Library has information on many facets or issues within the broad topic area. While neither comprehensive nor exhaustive, these guides provide helpful instruction on where to find information on certain topics. Each guide leads you step by step through the Research Strategy Model.
Step 1. Locate Background Information

Consult General Encyclopedias. Locate general encyclopedias (such as *Encyclopedia Britannica*, *Encyclopedia Americana*, and *World Book Encyclopedia*) in the Main Reference Collection (1st Floor, West Wing). In their index volumes, look up related terms. These indexes will direct you to the volumes and pages where the encyclopedia discusses different aspects of your topic. *Encyclopedia Britannica* is especially helpful because it has *Micro* volumes with shorter articles and *Macro* volumes with longer, more in-depth articles.

A list of computerized encyclopedias is available from the Library’s homepage; simply select “Reference Online.” From the left side of this screen, choose “Dictionaries & Encyclopedias,” then select the desired link. Whether you use book format or computerized general encyclopedias, make certain that you don’t overlook pertinent background information. Take careful notes for future reference. Try to determine what questions people are asking about your subject, as well as which issues are of greatest interest to you. As you read the articles you’ll find the following:

- General information on the subject
- Sub-categories relevant to your paper’s focus
- Terminology (subjects, phrases, keywords)
- Names of important people (authorities)
- A list of sources (bibliography) potentially useful in later research stages

List the titles of two articles you read from general encyclopedias. Include the names of their authors (if provided), the name of the encyclopedia, and the year of the edition:

1. ___________________________________________________________________________________
   ___________________________________________________________________________________

2. ___________________________________________________________________________________
   ___________________________________________________________________________________

In order to add credibility and power to your paper, you’ll need to provide the credentials of authorities who have written (or are currently writing) about your subject. Who are they? Why should we listen to them? What kind of expertise do they have on your subject? Often credentials will follow the name of the author of the article, or may be listed in a certain encyclopedia volume. For example, in the *Encyclopedia Britannica*, the author’s credentials are listed in the *Propaedia* volume.

Example: According to Dr. Neal Smith, *Director of the Chicago School of Medicine*, anorexia . . .

State the credentials of the authors you listed above:

______________________________________________________________________________
______________________________________________________________________________
Consult Specialized Encyclopedias. Specialized encyclopedias—also located in the Main Reference Collection (1st Floor, West Wing)—contain the same type of information as general encyclopedias, but provide a more in-depth treatment of the subject. To obtain the titles and call numbers of recommended specialized encyclopedias, go to the Library’s homepage and select “Research by Subject.” Scroll down to the bottom of the frame, and select “Specialized Encyclopedia List.” These encyclopedias are listed by call number, under broad topics (highlighted in yellow). Again, remember to take careful notes for future reference. As you read you’ll find:

- More detailed background information
- More specific sub-categories
- Additional terms, authorities, and bibliographies

List titles of two articles you read from specialized encyclopedias. Include the names of their authors, their credentials, the name of the encyclopedia, and the year of the edition:

1. ___________________________________________________________________________________
   ___________________________________________________________________________________

2. ___________________________________________________________________________________
   ___________________________________________________________________________________

List any controversies, unresolved issues, or unanswered questions relating to your subject:

_____________________________________________________________________________________
_____________________________________________________________________________________

What specific issue or sub-topic interests you the most?
_____________________________________________________________________________________
_____________________________________________________________________________________

Step 2. Narrow Your Topic

After reading general and specialized encyclopedia articles, you should now have an awareness of various aspects of your topic. You’re now ready to narrow the scope of your research and to form a working thesis statement or issue question. (Note: Depending on the nature of your assignment, your particular instructor may make a distinction between these two terms; this document will use issue question.) Consider narrowing your topic by limiting its scope geographically, chronologically, culturally, etc.

The following is an example of how a broad topic can be narrowed to form an issue question:

Psychology ⇒ Phobias ⇒ Treatment of Phobias
Issue question: What are the best methods of treating phobias? More specific issue question: How effective is relaxation therapy in treating phobias? Even more specific issue question: How effective is relaxation therapy in treating glossophobia (fear of public speaking)?

-State your narrowed issue question:

In preparation for performing computerized searches, organize your issue question into keywords (words used to find items referenced in electronic databases). You should know that the Library of Congress Subject Headings volumes categorize certain keywords (or headings) alphabetically. A complete LCSH set—comprised of five large red volumes—is located at each first-floor information desk. Also, topics listed in the LCSH are broken down into sub-topics, which may help you narrow your subject further, if necessary. Listings in LCSH are coded as follows:

- BT = broader terms
- NT = narrower terms
- RT = related terms
- UF = used for
- USE = use
- SA = see also

The LCSH also lists call numbers—unique numbers assigned to every item acquired by the library—next to most headings. For example, the call number for “Mormon temples” is BX8643.T4. The McKay Library uses such numbers to arrange books on the shelves.

Step 3. Find Research Materials

With a specific research focus in mind and a list of relevant keywords in hand, you’ll next locate books, articles, and Internet sources to use in the actual composition of the research paper.

Finding Books. If you’ve already found a call number relevant to your topic, consult a library map to locate its general “neighborhood.” You may then go to that area to browse specific book collections. Another option is to use BYU–I’s online library catalog. From the Library’s homepage, select “Catalog of Books and More (What We Own).” If you’re unfamiliar with the catalog, you may wish to click on the help button at the top of the screen.

Perform general or subject keyword searches using relevant terms you’ve gathered. Anticipate combining keywords in order to quickly identify specific materials. Boolean operatives—specifically, the words AND, OR and NOT—may be used to arrange keywords in a search string (or search statement) in order to narrow or expand your search. Note, too, that several operands can be employed in a single string.

<table>
<thead>
<tr>
<th>Operative</th>
<th>Research Interest</th>
<th>Sample Search String</th>
</tr>
</thead>
<tbody>
<tr>
<td>AND</td>
<td>teaching children another language</td>
<td>teach AND children AND second AND language</td>
</tr>
<tr>
<td>OR</td>
<td>validity of college entrance exams</td>
<td>college OR university AND SAT</td>
</tr>
<tr>
<td>NOT</td>
<td>John Calvin</td>
<td>Calvin NOT Hobbes (excludes cartoon character)</td>
</tr>
</tbody>
</table>

Perform title keyword searches for relevant materials listed in the bibliographies you’ve found. Perform author keyword searches for the names of people you’ve identified as authorities in the field. Either write down or print out the information about each desired title—including the call number—so that you’ll be able to locate it.
Generally,

<table>
<thead>
<tr>
<th>if a book’s call number begins with</th>
<th>it will be located on the</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-D</td>
<td>1st Floor, East Wing</td>
</tr>
<tr>
<td>E-K</td>
<td>2nd Floor, East Wing</td>
</tr>
<tr>
<td>L-Z</td>
<td>2nd Floor, West Wing</td>
</tr>
</tbody>
</table>

Although some books you find might be too broad, you may be able to use a chapter or two. If you need more sources, consult bibliographies at the end of books, book chapters, and articles.

List two books directly related to your topic. Include their complete titles, their authors’ names and credentials, publishing data, and call numbers.


1. ___________________________________________________________________________________
   ___________________________________________________________________________________

2. ___________________________________________________________________________________
   ___________________________________________________________________________________

Finding Periodical Articles. By definition, a *periodical* is a publication that appears on a regular basis. Examples include newspapers (daily or weekly), magazines, and journals. You may consult either printed or computerized indexes related to your subject. Printed indexes to periodicals are located on the 1st Floor, West Wing, room 140—as is the periodical collection in microform.

**Popular literature indexes**, such as the *Reader’s Guide to Periodical Literature*, include articles from *Time, U.S. News & World Report*, etc. However, be aware that some articles from popular magazines may be too general for use in a formal academic paper.

**Paper indexes**, such as the *Biological and Agricultural Index* or the *Applied Science and Technology Index*, list materials that offer statistics, examples, case studies and/or results from laboratory experiments—which may help you prove your thesis.

**Computer indexes**, such as UMI Proquest Direct or EBSCOhost, reference thousands of periodical articles. Sometimes these databases will provide the entire article (or full text); otherwise they’ll provide only bibliographic information and perhaps a summary (or an abstract).

To access computerized periodical indexes, go to the Library’s homepage and select “Index to Articles.” From this screen, you’ll see two headings: one entitled “Index to Articles”; the other entitled “Most Frequently Used Multi-Subject Indexes.” The former option offers database listings either alphabetically or by subject. Since you already have a specific topic in mind, select “Indexes by Subject.” Either scroll down the list or use the “Quick Jump” frame to access discipline-specific databases.
Based on their accompanying descriptions, select databases most relevant to your topic, and then enter your keywords in the search boxes. Use Boolean operatives as necessary. Sift through the listed titles to find relevant articles concerning your issue question, carefully evaluating your choices. Mark relevant entries. Print, download or e-mail citations and full-text articles. If an article isn’t in full-text format, the Library may still have it—just in another form. To determine whether the McKay Library has a certain periodical, consult the booklet entitled David O. McKay Library Serials [year]. Several copies—identifiable by their bright green covers—may be found in the periodical collection, room 140. This booklet lists all periodicals to which the Library subscribes, as well as the form in which they are stored (microfiche or paper). If the desired periodical (or issue) isn’t part of the Library’s permanent collection, the Inter-Library Loan Office—located on the 1st Floor, East Wing, room 164—can usually get it for you.

Using two different periodical indexes, list two articles directly related to your topic. Include their complete titles, their authors’ names, and publishing data (volume/issue numbers, dates, inclusive pages).


1. ___________________________________________________________________________________
_____________________________________________________________________________________

2. ___________________________________________________________________________________
_____________________________________________________________________________________

Finding Internet Sources. In addition to scholarly books and periodical articles selected from the Library’s collections, you may find relevant research materials on the Internet. Internet sites are located by using a browser (or search engine). Many different browsers exist, each designed slightly differently and leading you to different sites. Since each browser accesses only a fraction of the entire Web, anticipate using several of them in order to perform a more thorough search.

To initiate a search from a library computer, find a library staff member who will help you access a particular browser. Once online, enter your keywords as you did with the periodical databases.

To initiate a search from a non-library computer, go to the BYU–I home page, select “Students” (located in the upper left-hand portion of the screen). Scroll down the page until you see a heading entitled “Off Campus Resources” and select “Internet Search Tools.” From this list, choose a browser (Excite or Infoseek, for example), and then enter your keywords. Some other noteworthy search engines:

• Northern Light (www.northernlight.com)  • HotBot (hotbot.lycos.com)

Metasearch engines—which employ several search engines simultaneously—include:

• Metacrawler (http://www.metacrawler.com)  • Dogpile (www.dogpile.com).

You may wish to shorten (or truncate) keywords by adding a truncation symbol to the end of word roots (most often an asterisk *). The computer will then look for all possible word variations.
Phrase searches may be conducted by placing double quotations marks around a particular combination. Like certain algebraic equations, parentheses isolate functions, in this case “strings within strings.”

**Research Interest** | **Sample Search String**
---|---
Chinese threat to national security | “national security” AND China AND (espionage OR spy* OR spies)

List some of the keywords (truncated or not), phrases, and/or search strings you used:

<table>
<thead>
<tr>
<th>Keywords</th>
<th>Phrases</th>
<th>Search Strings</th>
</tr>
</thead>
</table>

As you review Internet sources, you may find valuable clues in the Internet address (or URL). Three-letter abbreviations concluding the URL can alert you to the type of organization responsible for a certain site—in turn, helping you determine source credibility.

*Informational resources* are those sponsored by educational institutions or governmental agencies. These resources often include .edu or .gov within the address. Example: www.byui.edu or www.cia.gov.

*Advocacy resources* are those sponsored by organizations trying to promote ideas or influence public opinion. These resources often include .org within the address. Example: www.democrats.org.

*Business resources* are those sponsored by commercial entities trying to sell products. These resources often include .com within the address. Example: www.oldnavy.com.

*News resources* are those providing extremely current information. These resources often include .com within the address. Example: www.usatoday.com.

*Personal resources* are those which have been written, compiled, and/or published by individuals who may or may not be affiliated with a larger institution. These pages often represent the views of that individual alone. Addresses vary but frequently include a tilde (~).

Using two different browsers, list two articles directly related to your topic. Include their complete titles, their authors’ names, and publishing data (publication/update/access dates, complete URLs).


1. ___________________________________________________________________________________

_____________________________________________________________________________________

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Step 4. Evaluate & Select Research Materials

Once you find a manageable number of potential sources, you face the challenge of determining which sources you'll actually incorporate into your paper. Assess sources using the following criteria:

| **Relevance/Uniqueness.** Does this source help answer your research question? Will it make a unique contribution to your presentation? If not, discard it. |
| **Accuracy/Reliability/Credibility.** Is the information accurate? What clues are present to help you judge accuracy? Has the information been edited and/or peer reviewed? Are the author and publisher reputable? Do they cite their credentials or qualifications? Is there sufficient documentation to help you determine whether the source is reliable? In other words, are there footnotes, a bibliography, or credits? |
| **Perspective/Objectivity.** Is this a primary source (presenting the author’s own research and ideas) or a secondary source (summarizing and discussing the research and ideas of others)? How objectively is information presented? Is a bias evident? Is the author attempting to sway the reader’s opinion? Who finances, endorses, or otherwise sponsors the Internet sites you’re visiting? |
| **Timeliness/Currency.** How recently was the information published? How recently has it been updated? Have there been developments in the field not accounted for in the source? Are there (m)any “dead” hyperlinks in your Internet sites? |

These criteria are important in the evaluation of all information you locate, but they are absolutely crucial when investigating Internet resources. Since almost anyone can publish a web page, and there are few of the traditional filters in place for Internet publication, you’re responsible for assessing not only the utility of your paper’s source materials, but their appropriateness as well.

Step 5. Write the Paper, Citing Sources Correctly

Now that you’ve compiled reference articles, portions of books, periodical articles, and Internet sources relating to your specific topic, use this information to begin drafting your paper. However, some instructors may require a proposal, outline, and/or bibliography before you can begin your initial draft(s). Anticipate several subsequent revisions to your draft(s).

Finally, remember to carefully document your research to avoid any hint of plagiarism. Plagiarism is averted by adhering to strict documentation guidelines, devised and published by the Modern Language Association (MLA) or the American Psychological Association (APA)—the two most common research paper formats. Sample in-text citations (or parenthetical references) may be viewed at Purdue University’s Online Writing Lab: [http://owl.english.purdue.edu](http://owl.english.purdue.edu). Sample bibliographic entries, for both traditional and electronic sources, may be viewed from the McKay Library’s homepage; simply select “Quick Links” (in the center of the screen), then “Documenting Sources,” and then the desired format.

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Please direct comments and suggestions to William Brugger, English Dept., BYU–I (bruggerw@byui.edu).