

# The Five Steps of the Research Process

## 1. Defining the Research Topic

The first step in the research process is determining your topic. This is not as easy as you might think -- because the first topic that comes to mind might not be one about which your library has resources. [Nor are there sufficient resources on the Web for all topics!]

Good places to look when coming up with a research topic:

☀ **Subject Specific Encyclopedias**, such as the *Encyclopedia of Animal Rights and Animal Welfare* or *The Cutting Edge: An Encyclopedia of Advanced Technologies*. To find a subject specific encyclopedia:

- ◆ Use the Library catalog (<http://libcat.nmsu.edu>)
- ◆ Do a combine keyword search for encyclopedia AND [your topic]
  - ◆ encyclopedias AND alcohol
  - ◆ encyclopedias AND herbs
- ◆ If you do not find your topic right away, broaden it:  
herbs → plants → biology → science

NMSU LIBRARY CATALOG

Search Heading Title Request History Help Exit

Database Name: NMSU Library System

Author/Title/Subject Combine Keywords Course Reserve

Search for: herbs as a phrase Search in: Keyword Anywhere (GKE)

AND OR NOT

Search for: encyclopedias as a phrase Search in: Keyword Anywhere (GKE)

AND OR NOT

Search for: as a phrase Search in: Keyword Anywhere (GKE)

☀ Do a subject guide search in the **Expanded Academic ASAP** database (<http://lib.nmsu.edu/resources/dbexpacd.html>) by clicking on Subject guide in the blue side bar. The subheadings for your topic will display. To narrow your search, look through the list of headings and select the one that best fits your needs.



- ✳ Use one of the Web sites devoted to researching "**hot topics**" or "**controversial issues**"
  - ◆ Opposing Viewpoints, <http://www.lib.washington.edu/mcnews/opposingviews/single-issue.html>
  - ◆ Social Issues, <http://www.multcolib.org/homework/sohc.html>
  - ◆ Google, Issues, <http://directory.google.com/Top/Society/Issues>

## 2. Information Seeking Strategies

Look for a variety of sources on your topic - books, articles, and Web pages. These different types of sources often give you different lengths and types of information, as well as different perspectives on a topic.

Keep in mind the difference between **keyword searches** and **subject searches**.

- ✳ **Keyword searches** look for exactly the words you enter anywhere within the database (author, title, notes, etc.). They do not look for synonyms, or other ways to express the same topic. If you enter "latinos," you will find only this - not results that include "chicanos" or "hispanics."

- ✳ **Subject searches** rely on descriptions that are given to resources by catalogers or indexers (information professionals) so that you can find all resources on a topic under one heading. This means that if the subject heading is Latinos, you will find all materials about Chicanos and Hispanics there too. *The hard part can be finding the "correct" subject heading for your topic.*

- ✳ **Articles** – use a full-text Library database such as:

- ◆ **Expanded Academic ASAP** (<http://lib.nmsu.edu/resources/dbexpacd.html>)
- ◆ **WilsonSelect** (<http://lib.nmsu.edu/resources/dbwilson.html>)
- ◆ **Lexis-Nexis Academic Universe** (<http://lib.nmsu.edu/resources/dblexis.html>) for newspaper articles

- ✳ **Web pages** - use a Web search engine such as:

- ◆ **Google** (<http://www.google.com>), the largest of the search engines
- ◆ **Vivisimo** (<http://vivisimo.com>), a search engine that clusters results by category
- ◆ **Kartoo** (<http://www.kartoo.com>), a search engine that gives maps showing the links between pages found

- ✳ **Books** - use the NMSU Library catalog (<http://libcat.nmsu.edu>). If you do not know the correct subject heading for a subject search, try using a combination of keywords. Once you find books that are similar to what you're looking for, click on the subject heading links on the record to see how many entries there are under those headings. You can then look through those titles to see if you can find what you're looking for.

Use **search techniques** appropriate for finding information on your topic. Not every technique works with every database or search engine, so either test them out or read the help screens for that search tool.

<i>Search Technique</i>	<i>Example</i>
<p><b>1. Omit unnecessary words</b> "In" is an especially bad word to include, as some computer systems interpret it as commanding them to look for certain information in a particular field.</p>	<p>communism <del>in</del> Romania  seniority <del>in the</del> Senate  effects of caffeine <del>on the</del> memory of mice</p>
<p><b>2. Capitalization</b>  Doesn't matter unless it does!</p>	<p>☀ Doesn't matter with the NMSU catalog or article databases (texas)  ☀ Does matter with some search engines (Texas)</p>
<p><b>3. Put quotation marks around phrases</b>  Only works with phrases that are commonly used as phrases</p>	<p>"animal rights"  "united states"  "partial birth abortion"</p>
<p><b>4. Truncation</b>  Allows you to search at one time for words with similar endings - any of which could be relevant to the topic</p> <p><i>Symbols (*, !, \$, #) for truncation vary among databases.</i></p>	<p>librar* - searches for librarian, librarians, library, libraries, librarianship  psycholog* - searches for psychology, psychologist, psychologists, psychological</p>
<p><b>5. AND</b>  Allows you to connect two or more search words or phrases. Effective way to narrow searches and lessen the number of results</p> <p><i>Some databases allow you to use the AND command without capitalizing, others do not.</i></p>	<p>cats AND diet  teenager* AND "binge drinking"  "european union" AND "single currency"</p>
<p><b>6. OR</b>  Allows you to search for several variants on a search concept at one time. Works best with keyword searches.</p>	<p>"european union" OR eu  e-commerce OR ecommerce OR "electronic commerce"</p> <p><i>It's usually best to use OR only in the same search with an AND command.</i></p>
<p><b>7. Requiring or Excluding Words from Search Results</b></p> <p>+ requires that all items in a list of results contain certain words or phrases  - requires that none of the items in a list of results contains the excluded word or phrase</p>	<p>☀ "binge drinking" +"date rape"  ☀ dolphins -football</p> <p><i>Do NOT include a space between the + or - sign and the search word following it.</i></p>
<p><b>8. Limits</b>  Allows you to restrict results to items meeting certain criteria</p>	<p>☀ Being of a particular type (newspaper articles versus journal articles)  ☀ Being in a particular language (English, French, Spanish, etc.)  ☀ Being published/ produced within a particular time frame (1995-2000)</p>

### 3. Locating and Accessing Information Sources

Use the listing of library locations and call numbers to find your materials within the Library

#### *Book Stacks Locations*

If a call number begins with:	It is shelved in:	On floor:
A-D	Zuhl Library	2
Doc	Branson Library	2, west end, Government Documents
E-H	Zuhl Library	2
HA-HJ	Branson Library	2, west end
HM-JV	Zuhl Library	2
JX-P	Zuhl Library	3
Q	Branson Library	3, west end
R-Z	Branson Library	4, west end

#### *Special Locations*

Archives & Special Collections	Branson Library	4 <sup>th</sup> floor, east end
Atlas Cases & Maps	Branson Library	2 <sup>nd</sup> floor, east balcony area
Current Periodicals Room	Branson Library	1 <sup>st</sup> floor, west end
Microforms	Branson Library	1 <sup>st</sup> floor, west end
Reference	Zuhl Library	1 <sup>st</sup> floor
U.S. Government Documents	Branson Library	2 <sup>nd</sup> floor, west end

#### *Other Locations*

Because the NMSU Alamogordo and Doña Ana Branch Community College Libraries share the catalog with the main campus library, you will sometimes find items listed as being available from one of those libraries. If your items are at NMSU Alamogordo or the Doña Ana Branch Community College, use the online request form to have them delivered to you on main campus. [Or, you can use your NMSU ID card to check out books from these libraries in person.] The forms are under the "Request Forms" link on the Library's home page: <http://lib.nmsu.edu/forms.html>

Use **Information Delivery Services** if the NMSU Libraries do NOT own the items you need. [The items are not listed in the catalog (<http://libcat.nmsu.edu>), or are listed as "missing" or "lost."]

☀️ If someone else has already checked out the NMSU copy of the item you need, use the request link in the catalog to **recall** the book, and whoever has that book will be asked to return it.



## 4. Evaluating Potential Information Sources

Not all information sources are equally good ones to use in your writing or presentations. You should carefully consider the sources you are going to use - each one should provide correct information, should be written by someone who knows something about the topic, and should contribute to your understanding of the topic. [Sometimes, with Web pages, you will find a number of pages, but each of them gives you the same basic information about the topic!] Below are some questions to ask yourself about potential sources when deciding whether to use them.

### Authority & Credibility

- ☀️ Who is the author?
- ☀️ What makes the author an authority on this subject? Does the author cite his/her experience/credentials?
- ☀️ Is there any way to contact the author?
- ☀️ Is the page part of a larger site? Who is responsible for this site?
- ☀️ Is the site accredited or endorsed by a reputable organization?
- ☀️ Is the page a peer-reviewed or scholarly article?
- ☀️ Does the page contain footnotes? Is material taken from other sources fully credited?

### Scope, Coverage & Relevance

- ☀️ Who is the intended audience? (general, specialized readership, scholars, etc.)
- ☀️ What is the level of the material? (basic, advanced, etc.)
- ☀️ Are the content and level appropriate for your assignment?
- ☀️ What time period is covered?
- ☀️ What geographical area is covered?
- ☀️ Is this information a part of larger source? If so, who shortened this source, and why?

### **Bias & Accuracy**

- ☀ How is the information presented? (fact, opinion, propaganda, etc.)
- ☀ If presented as fact, is it accurate?
- ☀ Is there a bias? (cultural, political, religious, etc.)
- ☀ If so, is the bias clearly stated?

### **Currency / Timeliness**

- ☀ What is the resource's date of publication, or date of posting to the Web?
- ☀ Does this date tell when the resource was created, or when it was last updated?
- ☀ How recent is the information contained in the source?  
How frequently is the source updated?
- ☀ Is some of the information obviously out of date? Too old for your needs?

### **Quality**

- ☀ What was the quality of the research methodology?
- ☀ Did it use accepted methodologies for its field, insofar as you know? What is the validity?
- ☀ Is the information clearly written and well-organized?
- ☀ Is new research being reported or is the author reviewing previously conducted research?
- ☀ Does the author agree or disagree with the majority of other scholars in the discipline?
- ☀ Is this the first resource of its kind within its discipline?

### **Commercialism**

- ☀ Is the presenter selling something - a product, a philosophy, himself/herself?
- ☀ Does the resource/page have a corporate sponsor?
- ☀ Are there any hidden costs?
- ☀ Do you have to enter personal identification in order to proceed?

## **5. Using & Citing Information Sources in Writings or Presentations**

Be sure to avoid plagiarism by quoting and citing your sources appropriately.

- ☀ APA Citation Style - <http://lib.nmsu.edu/instruction/handouts/APAtipsheet.pdf>.
  - ◆ See also the sample paper in APA Style at [http://www.dianahacker.com/resdoc/social\\_sciences/sample.html](http://www.dianahacker.com/resdoc/social_sciences/sample.html)
- ☀ MLA Citation Style - <http://lib.nmsu.edu/instruction/mla.pdf>
  - ◆ See also the sample paper in MLA Style at <http://www.dianahacker.com/resdoc/humanities/sample.html>

Remember that the Library is here to help you during all the steps of the research process. For more assistance contact the Reference Desk in Zuhl Library.

- ☀ Call 646-5792
- ☀ Or you can use the online question form at <http://lib.nmsu.edu/webref>