



12 Steps of Effective Research

Remember:

- ASK library faculty at the Reference desk if you have any questions. Helping students is our top priority. If we look busy reading or writing at the Reference desk, we're in between answering questions and welcome the chance to help you.
- Research is a circular process. This list is only a general guide. You may get to step 3 and realize that you need to go back, or you may jump from step 1 directly to step 4.
- Gather citation information and document sources as you go. See Step 11 for more details.
- As you're following these steps, ask yourself questions like... Is this information really relevant to my topic? Can I use this information to locate other sources? Is there a handbook for doing research in this field of study?

Step 1: Choose a topic

Pick something you're interested in that falls within the limits of your assignment. If you're having trouble coming up with a topic, talk to library faculty about resources that might inspire you. *10,000 Ideas for Term Papers, Projects, and Reports* (LB1047.3 .L35 1998 on the Reference shelves) is a great starting point. *CQ Researcher* is another great place to get ideas for topics and to read current and background information and a variety of points of view. The *Information Plus* series of books is another good starting point. If you're still having trouble coming up with a topic, look through your course textbook or talk to your instructor.

Step 2: Narrow your topic

This is especially important if your topic is broad or you know little about it. Here's how...

Look up your topic in general and specialized subject encyclopedias and in periodical indexes. What you find will provide you with more specific topics, and possible approaches or angles to take in your paper or speech. As a bonus, you'll find some sources!

Step 3: Write down your topic

Develop several questions that you plan to answer in your paper or speech. This is an important step because your questions will become topic sentences for your outline. If you write leading questions, it'll be easier to come up with a list of answers and issues to address in your project. For example, making the statement "The health care system in the U.S. needs to be fixed" isn't as intriguing to research or as interesting to read as asking "How can the health care system in the U.S. be fixed" or "What are the major issues facing the U.S. health care system that need to be fixed?"

Step 4: Brainstorm for a list of search terms

Think of words and phrases relating to your topic. Consider broader and narrower terms, and synonyms (words that have the same meaning). Look up these terms in dictionaries and thesauri. You may want to look them up in subject specific dictionaries and encyclopedias.

Use the *Library of Congress Subject Headings* to find relevant subject headings, plus terms that are related, broader, and narrower. Ask library faculty at the Reference desk to show these to you.

Step 5: Combine terms by using Boolean operators

When searching our library catalog, online periodical indexes, or the World Wide Web, using Boolean operators helps you broaden or narrow your search and its results. **AND** narrows your search, **OR** broadens your search, and **NOT** excludes certain terms. Use truncation symbols (usually ? or *) to capture all forms of words (e.g., educat? will retrieve education, educating, and educators).

For example, to find information on slavery in the Northwest, try searching for `slave* AND (northwest OR washington OR oregon)`. Consult our *Boolean Searching* handout for more information.

Step 6: Find background information

Look up your topic in general and subject specific encyclopedias, handbooks, and other reference books.

Step 7: Find books for overviews, retrospective, and historical information

Because library books are arranged by subject and each subject is assigned a call number, you can browse the Reference and Circulating shelves in your subject's call number area. To find a subject's call number area, use our *Library of Congress Classification System* handout or the *Library of Congress Subject Headings*.

Search our library catalog using the search terms you created in Step 4. When you find a promising book, note its subject headings and add them to your list of search terms. Note the book's call number and browse the shelves in that area for related books.

If you're having trouble finding books on your topic, try searching for the topic of a book that might have a chapter on your specific subject. Remember to ask library faculty for help if you encounter any problems.

Step 8: Find current information

Search our periodical indexes using the terms you've listed so far. You can do this from home if you have access to the Web. Connect to our library's home page (the address is at the bottom of this page) then go to our "Periodical Indexes" page.

Locate web sites on your topic. From our library's home page, choose "Internet Searching" and try our "Subject Starting Points". These are lists of sites Pierce College faculty feel are useful and reputable. Also try searching the Web using your favorite search engine. Web sites library faculty find useful and search engines we suggest can be found on the library's web site.

Step 9: Read and analyze the material you find

Evaluate the sources you've found, paying attention to their relevance, purpose, value, accuracy, and authors' credibility. Remember that Internet sources should also be evaluated for bias and inaccuracies, and you should pay attention to whether sites present facts or opinions. See our *Evaluating Sources* handout for more information about this step.

As you start to create an outline of your project or paper, note areas where you need more information.

Step 10: Search again

Repeat steps 4 through 9 as necessary to fill in any information gaps. Search through statistical, biographical, and geographical sources if they're appropriate. Add the new information to your outline.

You won't necessarily use everything you find. As a rough guide, find twice as many sources as your instructor requires. For example, if your instructor asks you to find 5 items, aim for 10. This allows you to choose from plenty of sources rather than being stuck with too few or relying on an incomplete collection of sources.

Step 11: Gather citations for your sources

As you're doing research, you should write down bibliographic information (author, title, publisher, date of publication, etc.). This will enable you to be prepared to create a bibliography or "Works Cited" list. In books, you'll find this information collected on a "title page," one of the first few pages. Online periodicals print this information at the top of the page. Print magazines and journals usually have this information on their covers. Web pages are inconsistent about this information, so ask for help if you have trouble locating it. Handouts are available to help you with citations.

Step 12: Stop searching and start writing

How do you know when you have enough information? This is hard to judge, but you need to do more research if you still have questions about what you're reading or if there are names and ideas that you're not sure about.

Handout adapted from Carol Burton's CITILAC Project at Bellevue Community College.

Library faculty at the Reference Desks can help with your research in person or by phone at 964-6555 (Fort Steilacoom) or 840-8302 (Puyallup). Stop by our web site <<http://www.pierce.ctc.edu/Library/>> for more information about our library or to use our library catalog and periodical indexes.