

Steps in a Research Process

There are many models available and taught concerning how to conduct a research process. Therefore, the process presented here is only one of many; however, it is a tried and proven process.

Step 1: Decide on a topic

Step 2: Develop an overview of the topic

Step 3: Determine the information requirements

Step 4: Organize the information

Step 5: Analyze and evaluate the information

Step 6: Synthesize the information

Step 7: Communicate/present the research

Step 1: Decide on a topic

To begin, state the research question, problem or issue. Then, develop a topic and thesis.

- topic = a broadly defined subject area
 - example: effects of rain runoff
- formulate a question = find a narrower perspective or focus on the topic by asking a series of questions about the topic
 - example: what are the effects of rain runoff in Boston Harbor?
- thesis statement = answer you suspect to find or points you will argue about the topic question
 - example: rain runoff increases pollution in Boston Harbor, endangering plant and animal wildlife

Step 2: Develop an overview of the topic

This step is most often ignored, but is one of the most important. It will help you to:

- develop an overview of your topic
- gather background information
- refine your topic
- develop a general bibliography
- identify additional keywords related to your topic, useful when searching for additional topic-related information

Working from "general" to "specific" is most effective:

- get an overview of the topic by referring to general encyclopedias, such as the online Encyclopedia Britannica to learn more about the topic
- begin to browse the library's online catalog (OPAC) to find sources held by the library that relate to your topic

- browse subject-based encyclopedias, handbooks and directories to begin to refine your topic
 - review the footnotes, endnotes and bibliographies from the end of subject-based encyclopedia and handbook articles to identify related sources
- also refer to bibliographies in course textbooks and reserve readings
- browse subject-related, indexed sources on the World Wide Web to find sources that relate to your topic:
 - use the Sawyer Library's Help and Research Guides

Step 3: Determine the information requirements

In this step, you determine the information requirements for the research question -- where will you find the information you need?

Learn what specific resources are available concerning your topic:

- meet with a reference librarian
- find books using keyword or subject searching in the library's online catalog
- use indexes and abstracts to find journal / periodical articles
 - choose appropriate indexes for the subject you are researching. For example, you should not use an index of business resources to search for information concerning European history.
 - refer to the Sawyer Library's list of databases organized by broad subject areas for assistance
- find resources via the World Wide Web
 - refer to the Sawyer Library's academic-based Web subject directories to locate information sources on the Web in addition to the Sawyer Library's Help and Research Guides

Step 4: Organize the information

Know when to stop searching for information and start thinking about what your compiled information means. This is also one of the most important steps for ethically using information and avoiding plagiarism.

- make sure you write down where you found any information in case you have to review it again. You will also need this information for references and your list of works cited.
- using complete citation information when compiling information will save you time when writing your paper
- format your citations using standard formats
 - for Web sites - print out what you find and write down the date you found it as well as the complete Web address (the URL)
- think over the ideas you read from the sources used, and write them down in your own words. This is called paraphrasing, and it will help keep you from plagiarizing

Do you have enough information to complete your research? If not, you may have to repeat several of the previous steps and/or extend the research process.

Step 5: Analyze and evaluate the information

Relate the information you have found and compiled, and your ideas from reading and thinking about the information, to your topic.

- analyze your notes
 - break down your notes into topic themes or categories
 - decide how these themes or categories relate to your topic
- discard notes that do not relate to your thesis
- look for holes in your thesis statement support and go back to find information you are missing
 - do you have enough information to complete your research? If not, you may have to repeat several of the previous steps and/or extend the research process

Step 6: Synthesize the information

- refine your thesis based upon the information compiled, read, and considered
- outline your project
- begin to write your paper

Step 7: Communicate/present the research

- communicate your research in the format required by your professor
- properly use citations to avoid plagiarism