Finding and Using Evidence Effectively

Inquire: Ready, Set, Research!

Overview
When you begin a research essay, it can feel even more intimidating than starting a regular essay. Where will you find sources? How do you begin the process? Taking a second to gather yourself and walk through the entire research process can be extremely beneficial to helping you get started without stress. Having a research question and a research strategy will save you a lot of grief in the long run. Take some time to think about your overall goal before you begin researching and writing.

Big Question: What is the research process, and how will it help me in my essay?

Watch: Where Do I Begin?
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When you think about the research paper writing process, you might think of it as walking in a straight line: choose a topic, write a thesis, find some sources, and write a paper. Unfortunately, however, the actual research process is winding and complicated. You might choose a topic and write a thesis, but your research could reveal that you no longer agree with your thesis. Maybe you completely reverse your position based on the sources you’ve found! At this point, you’ll need to revise your thesis and maybe find additional sources.

As you begin researching, you’ll need to develop a research question and a search strategy. Your research question is essentially the question you would like to find an answer to. This can help you avoid the thesis revision mentioned a moment ago. By beginning with a question, you’re allowing your research to help you develop your position based on what you’ve read.

Your search strategy will include questions like:

- What are my keywords and phrases? What variants can I use if I get stuck?
- How much and what kinds of evidence do I need? What is required by the assignment at hand?
- How can I use one source to find more sources? Does the source have a works cited page I can mine for additional sources?
As you make your way through the process, you’ll want to determine whether you’re looking at and finding primary, secondary, or tertiary sources. Additionally, you’ll want to be sure that your sources are credible and worth including in your essay. This can be one of the hardest parts of the research process.

Read: The Research Process

Overview

Research starts from the impulse to find the answer to a question. Research may be set in motion by anything — the wish to determine whether a particular car would be both reliable and affordable, the need to make a well-informed choice between treatment options, or the desire to cast a meaningful vote in a presidential election.

The Research Process

When you get a research assignment, you may think the process is linear — that you proceed in a straight line. You choose a topic, find some sources, and write a paper.

In fact, the process is much messier. Yes, you start with a topic, but that topic often evolves or changes as you conduct your research. When you actually start writing your paper, you may discover that you need additional sources beyond those you had already found or that you need to cover an additional subtopic that you hadn’t realized was important at the beginning of the project.

More than the topic may change during the research process. Your understanding develops as you learn things that you didn’t know before. You may form opinions about subjects you never considered before, or you may change opinions that you held previously. It is for these reasons that the research assignment places such emphasis on the importance of asking questions at the outset of the process. The research process does not begin with the certainty that you know what you will find, and you may find yourself following a roundabout route before you are satisfied that you have reached sound conclusions about your topic.

Finding Sources

A search strategy is your research plan. It describes how you go about finding the sources for your paper. A search strategy should answer the following two questions:

- What tools will I use to search for sources?

There are different types of sources, and the tools you use will depend upon what type of source you are trying to locate. Being able to choose and make use of the most appropriate search tools is a major element in successful research. You could use a library database, or you could use Google Scholar. The kind of source will depend on your research question.

- What words and phrases will I use as I search for sources?
You need to come up with a list of words and phrases to use with the tools that you select. Generally, at the outset of a project you want to search using keywords. These are words or phrases that you believe are likely to turn up in relevant sources.

The phrase “research plan” suggests that a search strategy is something you devise at the outset of a project. Remember, though, that research projects may evolve. So, too, may research strategies. Be prepared to change your search strategy — to generating new keywords, to trying different search tools — as you refine your search question or discover that additional subtopics must be addressed.

So, how do you create a search strategy?

Once you have a research question, make note of important keywords and phrases. Some of those keywords will be found in the question itself.

Research question: How does pet therapy help children with autism?

Keywords and phrases: pet therapy, children, autism

Here is where background research comes in handy, too. As you were settling upon your research question, you probably became familiar with a number of words and phrases that may be useful as additional keywords. Refresh your memory by revisiting sites, and even search out additional sites. For the example above, you could add terms like “therapy dogs” and “therapeutic horseback riding” to the list of keywords. Include “animal assisted therapy” as a possible search phrase, and make a note of the fact that “Asperger’s syndrome” is a term related to “autism.” Background research also will help you start to identify the names of key organizations and experts with relevant knowledge.

Along with developing a list of keywords, determine what tools to use by familiarizing yourself with resources at the library — its staff and its shelved and online collections. Your search strategy should include paying a visit to the library’s homepage. From there, you can search the library catalogue and its databases to find books and articles on your topic. Your strategy should also include consulting with the instructional librarians either in person or via computer or phone. The instructional librarians can offer suggestions for searching effectively and can answer questions about how to access material, whether it is shelved in the library, accessible via full-text database, or available via interlibrary loan.

Another part of your strategy should be using each source to identify additional sources. Take note of newly discovered keywords and phrases and use them to re-search the library catalog and databases. In addition, pay attention to the documentation in each source. The citations and reference lists may identify other articles and books you can use.

Evaluating Sources

A credible source is one that you have reason to rely upon. One way to determine whether a source is credible is to apply the concept of ethos. Is the source trustworthy? Is it authoritative? Is it fair?

The following questions can help you judge whether a source is trustworthy, authoritative, and fair.

- Is the source published in a scholarly journal or by a reputable press?
- Is the author an expert? What is her educational or professional background?
- Does the author cite expert sources?
- Does the author cite up-to-date sources?
- Is the author familiar with different opinions?
- Does the author accurately report arguments with which she does and does not agree?

The concept of logos also is useful for determining whether a source is credible.
- Does the source rely upon rational arguments?
- Does the source rely upon relevant evidence?
- Does the source rely upon sufficient evidence?

Finally, consider the role that pathos plays in the source.
- Is the source’s reliance on emotion kept within reasonable proportions?
- Does the source use emotion without being manipulative?

Reflect Poll: Planning Ahead

Which aspect of research are you most comfortable with?
- Finding sources
- Evaluating sources
- Developing a research question

Expand: Kinds of Sources

Overview

In your research, you will encounter several kinds of sources. Those sources may be primary, secondary, or tertiary sources. Which ones you want to use will depend on the kind of information you need and what is available to you.

Understanding Primary, Secondary, and Tertiary Sources

A primary source may be an original document, a first-hand account, or a contemporary report. The precise nature of a primary source may differ by subject. For students of history, accounts by participants or witnesses would be primary sources. Such accounts might be found in letters, diaries, business ledgers, or newspaper articles that are contemporary with events. For students of literature, a primary source might be a novel, poem, or play script. In biology, a primary source may be data generated through observations and recorded in lab notebooks; alternately, it may be a groundbreaking study, such as Charles Darwin’s *On the Origins of Species*. The one constant in determining whether a source is primary is that it serves as an original starting point for later writing in which the primary source is explored, discussed, analyzed, or repurposed in some way.

Secondary Sources

Secondary sources make use of primary sources by repurposing the information and ideas in them. Authors of secondary sources may analyze or comment upon primary sources or may use elements from them in arguments. An example of a secondary source would be an article written by a 21st-century historian about injuries suffered by 19th-century soldiers. The historian’s primary sources might include letters, journals, and newspaper reports from the period, as well as reports from army commissions and from representatives of early medical-relief organizations. Working from these primary sources, the historian would develop an interpretation of events, and this interpretation would be considered a secondary source.
Tertiary Sources

Tertiary sources rely exclusively on secondary sources. They restate and repurpose the information in secondary sources by surveying, reviewing, synthesizing, or commenting upon that information. An article in an encyclopedia that is based entirely on secondary sources would be an example of a tertiary source. For instance, the editors of Wikipedia require that its volunteer authors work from secondary sources rather than primary ones. Since the volunteers are required to use secondary sources and not allowed to use primary sources, all Wikipedia articles are tertiary sources.

Secondary sources are one step removed from primary sources, but tertiary sources are two steps removed. Tertiary sources are often considered reference tools rather than sources that students should directly rely upon in their own writing. At the beginning of a research project, students may wish to consult a tertiary source to get an overview of the subject and to develop a list of search terms, but many instructors require students to then move on and locate primary and secondary sources for the actual writing of the project.

Lesson Toolbox

Additional Resources and Readings

An overview of the research process
- Link to resource: https://courses.lumenlearning.com/wm-englishcomposition1/chapter/text-the-research-process/

A guide for moving through the research process
- Link to resource: http://library.elmhurst.edu/ENG106

More helpful information on the research process
- Link to resource: https://www.uh.edu/honors/undergraduate-research/research-steps-resources/

Lesson Glossary

search strategy: your research plan; it describes how you go about finding the sources for your paper
primary source: may be an original document, a first-hand account, or a contemporary report
secondary sources: sources that make use of primary sources by repurposing the information and ideas in them
tertiary sources: sources that restate and repurpose the information in secondary sources by surveying, reviewing, synthesizing, or commenting upon that information

Check Your Knowledge

1. Some instructors will not allow tertiary sources in a research essay.
   a. True
   b. False
2. The research process is a linear process
   a. True
b. False
3. You can use the concept of _______ to apply to evaluating a source.
   a. ethos
   b. pathos
   c. logos
   d. telos

Answer Key:
1. A  2. B  3. A

Citations

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