

THE RESEARCH PROCESS

What is Research?

A good working definition of academic research and writing can be given as follows: investigation and writing based upon the idea of scientific inquiry. A reader may at this point wonder if this definition sheds any light on the subject. The key here is to focus on the term “scientific inquiry”.

The scientific method is based on the assumption that everything in the universe is linked by cause and reaction. There is a logical explanation for all observed behavior. So a researcher using the scientific method of inquiry starts by making assumptions about what he or she expects to find after conducting research on a topic. This initial assumption is called a **hypothesis**. Researchers typically talk about a **null hypothesis**. A null hypothesis generally asserts that there is no meaningful relationship between two observed phenomena.

The researcher then seeks to conduct research that will either prove or disprove the null hypothesis. The researcher develops a methodology, or method of testing the null hypothesis. Research is completed and the results are analyzed. Research may be qualitative or quantitative. To simplify matters, quantitative research uses the application of mathematical tools to analyze data that is collected during the research. If this method is not used then the research can be considered to be qualitative.

Students are typically not conducting their own research when writing answers for class assignments or even when writing papers for a class. Nevertheless, students must understand what scholarly research is so that they can know the difference between reliable and unreliable findings (as written up by someone). The idea of “reliability” is important when considering scholarly research. Can someone other than the original researcher obtain the same results when conducting the same research at a different time and place? Did the original researcher use sound methods and analytic tools when conducting the research?

A student can never be sure of this without spending time reviewing the actual research and reported results. So how is a student going to know what sources are good, reliable ones and what sources do not meet the rigorous standards required for scientific research?

The answer is that a student must learn to recognize what sources are scholarly in nature and what sources do not adhere to those standards. There is no way of simply going to a list and looking up a particular source to find this answer. It can be said, however, that scholarly articles are those written by, and addressed to, experts in a particular discipline. These experts

are concerned with academic issues, particularly in research. Their work demonstrates the methods and concerns of scholars. It is usually, though not always, **peer reviewed**.

A student can figure this out by going to a particular journal or to its website and reading the information provided by the publisher. It is also safe to assume that any publication put out by a scholarly, professional organization is going to be a peer reviewed publication. "Peer review" means that before publication an article is read and reviewed by qualified experts in the particular field. It is analyzed for its methodology as well as for its findings. Its writing style is also held to a high standard.

A student can also consult online or in print form Uhlrich's International Periodical *Directory* for an independent review of a particular publication. Any article published in a publication not listed in Uhlrich is more likely than not a non-scholarly source.

Database Research

In a digital world most students want to find short cuts to search for articles. That is why databases were developed. A database is simply a collection of articles from different journals that are indexed into an electronic database that can then be searched electronically using keywords, author or title names, Library of Congress subject headings, etc.

Companies called **database aggregators** enter into agreements with a number of publishers to assemble indexes using many different journals. This saves the user time and allows one simultaneous search of any number of journals.

Databases are typically arranged broadly according to subject areas. Academic Search Elite is a database aggregation containing articles of journals dealing with general academic, interdisciplinary subjects. JSTOR deals with social science and education databases. Science Direct deals with science and technology databases.. ABIInform deals with business databases.

The Academy library offers several databases selected for their relevance to the courses taught here. These databases can be accessed on course pages by clicking on the "Academy Online Library" link. Using these databases is an art, not a science. The library page also contains links to PDF documents that discuss how to search EBSCOhost and ProQuest. Most databases use the same search techniques. There is also a link on the library page to an article discussing a special type of search technique called Boolean searching. All students should read this article before beginning to conduct database searches. These databases will produce results that are not from scholarly journals. A user can, however, click on a setting that will produce **only** results from scholarly journals and thus let the program itself do the selection work.

Research and the Internet

There is a great temptation today among students to feel that any information available through the internet must be reliable or else it wouldn't be there. Students need to understand that there is no entity monitoring or policing the internet. Some sites have administrators who attempt to control what kind of content is put out. The reality, however, is that almost anyone with technical knowledge or money can obtain a website and post content to the internet.

The internet has also promoted the idea of "self publishing". There are now publishers who for a fee will publish a person's writing with no regard for quality. It is also possible to post content to the internet with no quality controls in place at all.

This does not mean that all source material found on the internet is unreliable. A number of encyclopedias and dictionaries now have online editions. *Wikipedia* was founded in 1994 by two enterprising young entrepreneurs. In the past few years the quality of its content has improved a lot due to ongoing efforts to get people to edit previously posted material. These, however, are not scholarly sources. Neither are newspapers and popular magazines. Many stories found in newspapers and magazines are factually accurate and report on significant issues. They are not, however, subjected to the rigorous review prior to publication that articles appearing in scholarly journals must undergo.

A class paper that cites a newspaper article or something out of *Newsweek* magazine is not automatically suspect for use of such source material. An academic paper that only cites a newspaper article, an encyclopedia piece and a Wiki reference is going to be frowned upon however.

A search engine can be used to do scholarly research. This is not the place to discuss the difference between what happens during a normal web search and when an indexed (also called controlled) search is used. It is enough for now to note that during a regular search engine search no self-selection is taking place when considering sources. A more scholarly search is possible, however. Anyone who has used Google knows that just to the right of the start page search box is the phrase "Google Scholar" in link format. When a user clicks on the link he or she is taken to a screen very similar to what is seen when using a database aggregator such as EBSCOhost. This screen allows the user to employ Boolean search techniques and to filter the results in a way that eliminates many non-scholarly searches.

It is also possible to use sites such as WorldCat.com and free access journal database sites to conduct scholarly searches online. Each USSA Academy Online Library page for each course contains material discussing how to do this. The Academy also offers database links to some free online journal material.

Additional Research Tips

Students need to recognize that there is very little original thought in the world. Poets and novelists create works entirely from their own creative impulses. In academic research, a student is always engaged in analyzing and commenting on the work of others. All students will have some original ideas to contribute to a discussion. No one, however, is going to come up with a definitive work on some topic without at least referencing previous work in the area.

This is a polite way of saying that students must remember to give credit to the work of others when writing an academic paper. The reason research is conducted is to help guide the thought processes of the writer. It is plagiarism pure and simple to take someone else's words, even if paraphrased, and insert them into a paper without giving credit. This point cannot be stressed enough to students as they begin to write academic papers.

Students should be wary of using too many ".com" sites as sources for reference materials. Previous comments in this discussion notwithstanding, the assumption is that a paper that only cites internet sources is not a well written and researched paper.

Students at the Academy are usually asked to use the APA Style Manual as the guide for citing source materials. The guide is easy to use and is also available in its concise form online. There is simply no excuse for not using proper citation format when writing papers.

Conclusion

Any student can ask the course professor for help if confused about whether or not certain sources are considered scholarly in nature. All Academy students can also contact the library at any time for help in this area. Email addresses for the library are found in the Academy Online Library link on each course page.

Part of the education process involves learning basic research skills. All students have access to resources to help them meet this goal. The ability to produce high quality written work will give anyone an advantage in the competitive job market.