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The Research Process: Strategies for Undergraduate Students

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Chapter 03 - Find & Evaluate Information Sources at Western Libraries

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Find & Evaluate Information Sources

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When you engage in research activities, you will encounter an extensive variety of information sources. It is important to understand how each document type (such as a journal article or a website) can be useful to your research inquiry, and to be able to assess each document for inherent qualities such credibility, authority / authorship, accuracy, and more. But let's start with some definitions. If reading this text, *The Research Process*, you are likely in engaged in a research project which will likely result in a paper, a presentation, or a poster for a credit course. The entire process of defining a research question, exploring different information sources, and synthesizing your sources into a cohesive narrative is referred to as the *research process*. The research process requires different sets of skills and knowledge at different stages (which is why the experts at Western Libraries have written an entire textbook on this subject). Two skill sets you need through the research process are to find and to evaluate information sources; during this chapter you will learn about strategies for both.

Let's start with search, or find, strategies. A search strategy is a planned approach to discovering sources of information. The word strategy comes from strategos ($\sigma\tau\rho\alpha\tau\epsilon\gamma\delta\varsigma$) an ancient Greek word that means a general or commander (Tufts University). A search strategy is an important component of a well-planned campaign to produce a research paper or project. You have a plethora of information sources available to you through Western Libraries, from which you must find the information necessary to answer your research question. This chapter will focus on analyzing your topic to determine if there are additional questions to ask, utilizing subject encyclopedias to find background information and build knowledge about a topic, and finally learn strategies to evaluate the sources you've discovered.

Analysis

To save time, effort and retrieve the best search results, a search strategy begins with an analysis of your assignment, topic, or research question. For example, with a research topic about animal therapy, a sample research question could be:

"How are animals effective in providing therapy for seniors?"

An analysis of the research question picks out keywords to use in a search statement: animals, therapy, elders, and seniors. Analysis of your research topic includes creative thinking about synonyms and additional questions or sub-questions from the main research question. Synonyms for the original keyword animals may be more specific:

dogs, cats, or horses, for example. Sub-questions ask you to think about what you *really* want to know about the research topic. For example, what kind of animals are used in therapy? What is meant by the term 'effective' in therapeutic settings? Is animal therapy a treatment for a specific problem? Who are considered 'seniors'?

Consider the following research questions, which are actual research questions created by students in the library course LIBR 201: Introduction to Research Strategies

- How are animals effective in providing therapy for seniors?
- Whale behavior
- Disney films and gender roles for children
- GMOs and farming today

Think about how you might start analyzing and questioning these topics to develop sub-questions, ideas, and claims of your own to find information sources that support your thinking. To get started researching a topic, to find background information, or a quick summary with leads to more sources, a good strategy is to begin with a specialized subject encyclopedia. The next section contains some samples based on the topics given above.

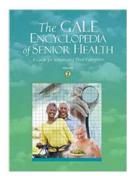
Subject Encyclopedias

Western Libraries has many subject encyclopedias that are valuable sources of information. These subject encyclopedias are located on the second floor of Haggard Hall, or are available through our <u>article databases</u> or <u>OneSearch</u>. A subject encyclopedia will help you by providing background information, references to additional articles or books, and search terms used in a specific subject. Following the same topics used above, here are some examples of what can happen when a subject encyclopedia is consulted.

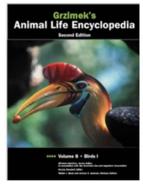
Animal Therapy and Seniors

Because of the seniors aspect of this topic, specifying a particular population, an encyclopedia called, The Gale

Encyclopedia of Senior Health may be relevant. Looking in the last of the four volumes, the alphabetical index to the encyclopedia listed the term "Animal Therapy." Beneath the entry was a reference to another part of the index, "See Pet Therapy." Under "Pet Therapy" in the index there are page numbers for the second volume. The main entry found on those pages has the title, "Isolation." In the text studies about pet therapy are mentioned. In the bibliography or list of references at the end of the *Isolation* entry a scholarly journal article is included: "Influence of companion animals on the physical and psychological health of older people: an analysis of a one-year longitudinal study," published in the *Journal of the American Geriatrics Society*, a scholarly peer-reviewed journal.



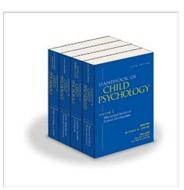
Whale Behavior



Searching through the Western Libraries reference collection for Whale Behavior, a first stop is Grzimek's *Animal Life Encyclopedia*. In the alphabetical index to the many volumes there is an entry for "Whales" with a See Also reference to "Killer Whales." At the entry "Killer Whales," there is a sub-heading, "behavior" that points to Page 6, in Volume 15, where the main section, "Cetacea" is found. Inside the encyclopedia entry, there is the paragraph on killer whale behavior. Furthermore, at the end of the entry is a bibliography that includes websites, journal articles, books, and another encyclopedia, *Handbook of Marine* Mammals, also available in the reference collection.

Disney and Gender Roles for Children

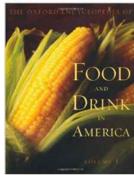
The specific population of children gives a clue to finding, *The Handbook of Child Psychology*, in the reference collection. Looking in the index at the end of each volume finds promising entries: "gender and observational learning," "influence of gender stereotypic portrayal of the sexes," and "violence and anti-social behavior." In this four volume handbook, each article entry contains a literature review of scholarly publications on the topic, and so a good resource for finding relevant sources.



GMOs and Farming Today

Because the concern about genetically modified organisms (GMOs) is often re-

lated to food, a natural selection from the reference collection is *The Oxford Encyclopedia of Food and Drink in America*. In the alphabetical index there is an entry, "Genetically Modified (GM)," that points to a main article



"Biotechnology" in the first volume of the encyclopedia. In the encyclopedia entry, there is a section on "Genetic Engineering" that is six pages long. The bibliography at the end of the article lists 20 references, including many scholarly journal article publications.

In each of the above examples, valuable information is found through subject encyclopedias. Encyclopedias connect you to scholarly journal articles, the overall subject background for the topic, and new vocabulary to use as keywords in searching databases. Don't know how to get started? Ask a subject expert in the library for advice on selecting a subject encyclopedia. Encyclopedia entries, sometimes called 'articles,' are not used for citations in a research paper bibliography because the information does not represent original research. The

journal articles listed in a bibliography at the end of the encyclopedia article do represent original research, and can be used. Encyclopedia articles are good sources of information for getting started but instructors may not want encyclopedia articles cited. It is best to ask your instructor for her or his opinion of citing encyclopedia articles in your work.

Published Sources of Information

Guest Post by Rebecca M. Marrall, Librarian & Assoc. Professor

Once you've explored your topic through subject encyclopedias, you have a wide variety of information sources available to you. *The Research Process* offers entire chapters that demonstrate how to discover, evaluate, and use other research sources. For example...

- Search for and retrieve research materials through the Libraries' catalog, OneSearch (Chapter Four).
- Explore article databases, and the research management features available to you in Article Databases (Chapter Five).
- Evaluate and integrate web-based information sources into your research (Chapter Six).
- Discover government documents, and what they can offer you (Chapter Seven).
- Learn about primary sources, and unique or special collections available through the Heritage Resources units at Western Libraries (Chapter Eight).

• Familiarize yourself with the Children and Teen's Literature Collection at Western Libraries, and learn about the impact of children's literature upon our local, regional, and national communities (Chapter Nine).

While these chapters offer an overview on how to maximize the specific resources discussed within, there are some general evaluation strategies that apply to all published sources of information. Finding information sources is only a third of the battle. Upon retrieving search results, you then have to evaluate each item for relevancy, credibility, accuracy, and much more (Later on, you will need to synthesize the information gathered in your research into a narrative but that discussion is reserved for the last section of this textbook, Section Three: Focus & Finalize).

Here are a series of questions to ask while evaluating documents:

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Document Attribute	Considerations
Audience	Questions to Ask:
	• Who is the intended audience for this publication?
	• What do the style and publication type tell you about the intended audience? Is the language formal or informal?
	Why is this Important? Authors often tailor a publication to the intended audi- ence, which means you can garner a great deal of information about the purpose and intent behind the publication.
Author &	Questions to Ask:
Author Affiliations	• What credentials does this author have, and what have they done in the field?
	• For example, what degree(s) do they hold and/or what else have they published?
	• Can you contact the author with further questions about the document?
	Why is this Important? Establishing credentials is one method for assessing cred- ibility and accuracy of a publication. For example, consider this scenario: Two people publish a document describing the ecosystem of Monarch butterflies. One author is an ecologist at the University of Iowa; the other is a passionate blogger with no other cre- dentials. Which one do you determine to be more authoritative?
Perspective	Questions to Ask:
	• Do the authors present a neutral set of findings?
	• Does the author's perspective, or bias, inform the information?
	Why is this Important? Perspective, or bias, has implications for credibility.
Date	Questions to Ask:
	• When was this source published?
	• Consider your topic, and your discipline. Is this source out-of-date for your re- search purposes?
	Why is this Important? New information is published every day. If the source your has outdated information, your final research product may suffer.

Document Attribute	Considerations
Publication Details	Questions to Ask:
	• What is the purpose of this publication?
	• What kind of publication is it? A scholarly article, a blog post, a newspaper article?
	• What are the limitations (and perhaps the advantages) of that type of publication?
	Why is this Important? Publication type can provide insight on the document's purpose and credibility. Every type of publication has standards for length, purpose, style, and distribution. Being aware of these standards can help you assess the potential usefulness of the information source. Furthermore, it is important to know when to use what document type in your research process.
Relevance	Questions to Ask:
	• Is the source related to your research topic?
	Why is this Important? In the era of Google and Wikipedia, determining if a publication is truly relevant to your research can be difficult simply because there is so much information out there. Your best bet is to ensure that you have a specific and detailed inquiry question from the start; this inquiry question will help you eliminate unnecessary sources as you proceed.

Evaluating Information Sources: Considering Intersectionality and Inclusion

By now you know how to draft a search strategy, and how to evaluate information sources for purpose, intended audience, credibility, and so much more. However, when you evaluate information sources it is also important to consider how the socio-cultural context of North America has shaped the information creation and dissemination patterns of our many co-existing cultural narratives. Furthermore, it is important to consider representation and portrayal of identities and groups across different media and platforms. A useful concept to explore is that of *intersectionality*. Kimberle Crenshaw, a civil rights activist and scholar, first wrote about intersectionality in 1989. She described intersectionality as the simultaneous and intersecting social and biological identities within an individual, such as gender, ability, class, religion, politics, age, sexuality, gender identity and/or expression, and much more (DeFrancisco & Palczewski). Intersectionality posits that humans have multiple and simultaneous dimensions to their identity, and when they experience the world around them, they must negotiate their experience through each of these identities.

But why talk about this? Because the information products you create may very well be influenced by your identities and by the existing socio-cultural systems. Thus, it's important to evaluate information in light in this context. Another useful concept to consider while examining information creation and dissemination processes is the idea of *information poverty*. Defined as a complex sociological phenomenon that results in groups having greater or lesser degrees of access to information, information poverty "... Information poverty is that situation in which individuals and communities, within a given context, do not have the requisite skills, abilities or material means to obtain efficient access to information, interpret it and apply it appropriately. It is further characterized by a lack of essential information and a poorly developed information infrastructure" (Britz pg. 194). Because the informationpoor experience fewer opportunities to access information, and participate in digital communities, this has serious implications for representation of all groups in online and scholarly communities.

In addition to the general evaluation strategies outlined above, here are some additional questions to ask when considering information sources. Let's start with authorship. Each publication has an author (or several); each author has access to, and interacts with, information in different ways depending on environmental and socio-cultural factors such as gender, ethnicity, educational status, and much more. Here are a few questions to consider when evaluating a document with regards to authorship: What is the author's cultural background? Socio-economic status? In which generation was this author born? Sexual orientation? Physical ability? Values system? Do any of these identities affect the creation and publication of the document? All of these factors may influence the author's perception of the world, and may have a subsequent influence on their communication style and information creation.

Another factor in evaluating sources: Inclusion in, and ownership of, cultural or informational narratives. There are several instances in which information has been written about a group without input or approval from those group members. In an examination of representation of indigenous peoples through archaeology, one scholar states that "...the act of writing...constitutes the means by which power and authority are asserted" (Colwell-Chanthaphonh 2009). Essentially, Colwell-Chanthaphonh explains that authorship controls the cultural narrative. Those who disseminate information ultimately control the *perceptions* of that information (and by extension, control history itself). For example, think about colonial narratives about indigenous peoples in North America (i.e., American Indians in the United States and the First Peoples in Canada). Those narratives were products of an unequal power dynamic; cultural and physical genocide; and a completely false representation of the experiences of indigenous peoples' *History of the Unite States*). Because of this historical context, this means that European-American documents about American Indians from the eighteenth, nineteenth, and twentieth centuries require careful evaluation in order to determine bias, misinformation, accuracy, and credibility.

In light of this socio-cultural legacy, it's also important to ask questions about inclusion and ownership in information narratives. Here are a few additional questions to consider when evaluating an information source: Does this document pertain to all groups? What groups are not included / represented in this document? Does the author have the membership and / or any credentials to speak for the group which this document discusses? Which begs the further question of what are the 'necessary qualifications' that allows an author to speak for a group? In a similar vein, it's important to evaluate information for stereotypes. For example, does this document portray groups or individuals as 'one dimensional'? Does the document speak as though all individuals within a group are the same?

Does this document offer a thorough examination of the multiple identities within an individual?

Chapter Conclusion: Why is this important to you?

When you engage in the research process, you will encounter an extensive variety of information sources. It is important to understand how each document type (such as a journal article or a website) can be useful to your research inquiry, and to be able to assess each document for inherent qualities such credibility, authority, accuracy, and more.

One last thing ...

Determining which other authors have cited a specific source can be useful for tracking the scholarly conversation on a specific topic. Google Scholar and Web of Science are useful tools for finding which authors cited a source, and to discover other sources cited within a publication. Remember that neither provide a *complete* citation search. Unfortunately, both Google Scholar and Web of Science are limited in their coverage.

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