ELMS Course

Snapshots taken on July 2, 2015.
Home page of Module 1: Research Process

MODULE 1: Home

Module 1
Research Process

This module includes the following topics:

1. Research Steps
2. Call Numbers: Finding Items in the Library
3. What is Research Port?
4. Quiz #1

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Sample page of Module 1

Research Steps

Module 1

Research Steps

Getting started

Research is not a simple linear process; it is a complex and challenging set of tasks. There is no one "right" way to conduct research, but using the methods outlined in this guide can make your efforts more efficient and effective.

Take the time to understand your assignment. This may be more complicated than it seems. Read the assignment carefully as soon as you receive it so that you can budget your time effectively, and ask your instructor about anything that is unclear.

Choosing an appropriate topic to research is critical to success. Choose one that fits the assignment and that interests you. Do not choose a topic so recent or narrow that little information is available, or so broad that the amount of information available is overwhelming. Consult with your instructor about your topic before you begin your research.

Choosing a Topic

- Getting started with this video from NCSU Libraries.

Picking your topic is research

- Read more: Choosing a Topic (Purdue Online Writing Lab).

Develop and focus your topic. Once you have an idea of what interests you as a topic, you will need to develop it into a manageable research question. For example, if your topic is broadly, health care, what specifically do you want to research about health care? You may wish to create a working thesis that you will revisit as the paper develops. To do this, you may need to first read some background information.

Developing a Topic through Preliminary Research
Module 2: Types of Information & Literature Review

This module includes the following topics:
1. Popular vs Scholarly Articles: What is the Difference?
2. Evaluating Web Sites
3. Literature Review
4. Quiz #2
Popular vs Scholarly Articles: What is the Difference?

Why is it important to differentiate between scholarly and popular sources?

In order to effectively conduct research, and therefore write knowledgeably about your topic, you will need to make decisions about which articles support your thesis best. One factor that will help you decide is the source an article is published in. Based on the characteristics of each publication, you will be able to support different aspects of your argument. For example, original research written by a subject expert will often provide the most credible information, while an article written by a journalist or freelance writer about popular events will offer good support.

Note: Scholarly journals are commonly referred to as academic and/or peer-reviewed journals.

What is the difference between scholarly (peer-reviewed) and popular articles?

How Do I Even Read That? Understanding Scholarly Articles

You’ve found some articles now you need to actually read them.

Image: Nate Jospi, 2011.

Many different approaches to reading a research article exist. Most researchers, however, don’t read an article from start to finish like they might a book.

The following steps will help you navigate a research article.
Module 3: Home

Search Techniques - MeSH

This module includes the following topics:
1. Boolean Operators: AND, OR, and NOT
2. Searching Health Databases Effectively: MeSH
3. Quiz #3
Searching Health Databases Effectively: MeSH

Module 3

Searching Health Databases Effectively - MeSH

In the previous module Finding Information: Health, you were provided an extensive list of databases where you can find information for your research assignment. The following tips can ensure that you are able to effectively use these health databases to find information that is relevant to your topic.

Improving Your Search: Medical Subject Headings (MeSH)

MeSH are a distinctive feature of PubMed (MEDLINE). PubMed's inclusion of MeSH allows researchers like you to use consistent vocabulary when searching for biomedical information.

Why use MeSH when searching PubMed?

Example: You want to do research on how sugar can impact cancer development in laboratory mice. In PubMed, you could do the following search:

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cancer AND "laboratory mice" AND sugar
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Performing the search in PubMed may lead to some problems. A keyword search for "cancer" will not necessarily retrieve articles on tumors, and a keyword search for "sugar" might yield results on carbohydrates, or sugar alcohols, or sugar phosphates, or sugar acids, etc. How can you make sure that you are searching PubMed using the right terms? By using MeSH!

In the previous example, using MeSH could drastically improve our search results. You can think of MeSH as a thesaurus for the database. When you perform a traditional keyword search, PubMed cannot predict all the terms you meant to include; rather, it will only search for the terms you actually entered. By using MeSH, you are searching the database several different variant versions of a keyword simultaneously. This means that your search results will be more comprehensive, and more relevant to what you actually wanted to find.

Back to our previous example: rather than a keyword search for "cancer" and "sugar," we can perform a MeSH search for "neoplasma" and "glucose."

Want more instructions on how to use MeSH? See the video below, or consult the National Library of Medicine's PubMed Tutorial. Visit Consult this guide to learn more about MeSH trees.

Use MeSH to Build a Better PubMed Query
Module 4: Home

Searching Techniques - PICO Model

This module includes the following topics:

1. Searching Health Databases Effectively: PICO Model
2. Quiz #4
Searching Health Databases Effectively: PICO Method

Module 4

Searching Health Databases Effectively: PICO Method

In the Guide To Finding Health Information, you were provided an extensive list of databases where you can find information for your research assignment. The following tips can ensure that you are able to effectively use these health databases to find information that is relevant to your topic.

Improving Your Search: PICO Method

PICO is a technique for designing a well-developed search in a health science database, and can be utilized effectively for scientific research in many disciplines. PICO helps a researcher identify all of the key terms that should be included in a search. PICO is an acronym that stands for:

1. P - Patient: what is the patient population that are you interested in? Think of this as the subject of your research.
2. I - Intervention: what is the exposure or intervention that you are interested in? Think of this as the independent variable in an experiment.
3. C - Comparison: what is the comparison to the current intervention? What other factors could be considered as an alternative to the main intervention? For many types of research, this step can be omitted.
4. O - Outcome: what condition are you hoping to measure, change, or improve? Think of this as the dependent variable in an experiment.

While this process may seem formulaic, it helps identify items that should be included in your search strategy. By doing this BEFORE you attempt to do a search, you can ensure that you will not waste your time looking at search results that are not relevant to your research.

Want more information on how to create a PICO search for your topic?

1. Watch the slides
2. Consult this guide
3. Download and try completing a blank PICO worksheet
Module 5: Home

Cited Reference Searching

This module includes the following topics:

   - Google Scholar
   - Scopus
   - Web of Science

2. Quiz #5

Source: How to Search for Literature More Effectively © University of California Berkeley Library
Sample page of Module 5

Scopus

Scopus is a multidisciplinary database covering sciences and social sciences. This abstract and citation database has smart tools to track, analyze, and visualize research from your region and from the rest of the world.

The following steps outline how you can do a cited reference search in Scopus:

1. Go to Scopus from Research Port.
2. Enter a few citation details into the main search page. The most efficient way to search is to enter the article title in the first box. In the next search box, enter the author's last name. Let us search for the following article:


Scopus

Scopus to add cited references to pre-1996 content, read more

1. In the search results, identify the proper citation. The record for the citation will display how many times this article has been cited according to Scopus. This number can differ from Web of Science and Google Scholar®. In this example it has been cited 50 times. Click on the Find It button to access the full text. If UM Libraries have a subscription to it. Otherwise, you will be prompted to request the article through interlibrary loan.

Scopus

Move your mouse over the number of citations that have cited this article and click on the number.
MODULE 6: Home

Citing Sources & Creating a Bibliography

Academic Integrity & Academic Dishonesty

This module includes the following topics:

1. Citing Your Sources
   - APA Citation Style (A detailed guide with examples)
2. Organize your References with Citation Tools: Which One to Choose?
3. Academic Integrity & Academic Dishonesty
4. Quoting & Paraphrasing
5. Quiz #6

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Sample quiz in Module 6

Quiz #6: Citing Sources & Creating a Bibliography

Started: May 26 at 9:19am

Quiz Instructions

Question 1

a. Select a citation management software to install on your computer.
b. In a few sentences, explain your reason for choosing it over another option.

Using the citation manager, create a citation for the following article in APA style and paste it in the box below.

Effects of the precalving administration of omega-3 fatty acids alone or in combination with acetylsalicyclic acid in periparturient dairy cows.
Grossi P1, Bertoni G, Cappelli FP, Trevisi E.

Note: If you could not generate this citation, explain why you were not successful in this task.