

# General Search Process

## ***Purpose***

The purpose of this handout is to outline a generalized process to help to guide you through searching for articles in online article databases. The process is more of a guideline than a hard-and-fast set of procedures.

**Be methodical, but be flexible as well! Let your results guide you to the next logical step.**

## ***Part One: Beginning***

**A. What kinds of articles are you looking for?** Begin by writing down your information need. Be as specific as possible.

Examples of statements of need:

1. ***“I’m looking for articles about the impact of malnutrition on learning in preschoolers.”***
2. ***“I need to find articles on parliamentary process in Reformation England.”***

**B. Break your statement need down into concepts.** What are the components of the information you need?

Using the above examples:

1. Three concepts: ***Malnutrition; Learning; Preschoolers***
2. Three concepts: ***Parliamentary process; Reformation*** (time period); ***England*** (location)

**C. Develop search terms.** Can you think of any synonyms for the concepts you’ve defined?

1. a. ***Malnutrition; Malnourishment; Undernourishment; Hunger***  
b. ***Learning; Cognition; Skill development***  
c. ***Preschoolers; Toddlers***
2. a. ***Parliamentary process; legislative process; lawmaking***  
b. ***Reformation; Protestant Reformation; 16<sup>th</sup> century; early Renaissance***  
c. ***England; Britain***

## ***Part Two: Construct your search***

**A. A brief aside- Boolean Connectors** – Boolean connectors [AND, OR, NOT] define the relationship between terms in your search.

1. **AND:** Linking two terms with AND will retrieve articles that contain both terms.  
Example: *Malnutrition* AND *Learning*- only articles that contain both of these terms will be retrieved.

**Using the AND operator *narrows* your search, so that fewer articles are retrieved.**

2. **OR:** Linking two terms with OR will retrieve articles that contain either term.  
Example: *Malnutrition* OR *Learning*- articles that contain either of these will be retrieved.

**Using the OR operator *broadens* your search, so that more articles are retrieved.**

3. **NOT:** Linking two terms with NOT will retrieve those articles that contain the first term but not the second term.

Example: *Malnutrition* NOT *Learning* – articles that contain Malnutrition, but that don't contain Learning, will be retrieved.

**Using the NOT operator *narrows* your search, so that fewer articles are retrieved.**

**B. Another brief aside- Order of operations** - Most online databases will interpret connectors in search strings in a specific order. Usually NOT comes first, then AND, then OR. So, a search string like this:

***Malnutrition* OR *Hunger* AND *Learning***

will retrieve articles that contain malnutrition, or that contain both hunger and learning- probably not what we want!

You can use parentheses to clarify the order in which you want the search string to be interpreted. So, a search string like this:

***(Malnutrition* OR *Hunger*) AND *Learning***

will retrieve articles that contain both learning and either malnutrition or hunger.

**C. Constructing your search** – It’s handy to use a grid to construct your search. Concepts go DOWN, and are linked with AND.

-Synonyms for your concepts go ACROSS, and are linked with OR.

Using one of the examples above may make this clearer:

Concept One: *Malnutrition* OR *Malnourishment* OR *Hunger*

AND

Concept Two: *Learning* OR *Cognition* OR *Skill Development*

AND

Concept Three: *Preschoolers* OR *Toddlers*

**D. Creating your search in the online database** – The particulars of this step are going to vary depending on what database you’re searching in. Most online databases have an “Advanced Search” screen and a “Basic Search” screen, or some variant thereof.

Here’s a screen shot of part of the “Advanced Search” screen in Academic Search Premier, with terms from our example search entered. Note that the dropdown menus to the left of the text boxes have the “AND” connector selected, while terms within text boxes are joined with “OR”:



### ***Part 3: Evaluating your results and refining your search***

**A. Examine the results of your first search.** Do the results seem relevant to the topic you're searching on or are they off the mark? Did you retrieve too many results? Too few? How do the results of your search stack up against what you had in mind when you started searching?

**B. Dealing with an irrelevant set of results.** If your search results are completely irrelevant, you may have to go back to square one. Re-examine your search statement, concepts, and search terms. Do they capture what you're trying to get at? Try to think "outside the box" to come up with new terms to try.

**Subject terms and thesauri.** Many (but not all!) article databases apply subject terms (or descriptors) to articles to describe what the article is about. These terms come from a pre-established list of words. Article databases that use subject terms usually have thesauri that can be used to look up subject terms in specific areas. Consulting the thesaurus of the database you're searching in can give you ideas about new terms to use.

**Use subject terms and the database's thesaurus to help you retrieve more relevant results.**

**C. Dealing with too many results.** If you retrieved an overwhelming number of results, there are many ways to narrow your search.

1. **Add more terms with AND:** Using the AND connector, you can add a new search term to your search.
2. **Add limiters:** Most databases allow you to limit results by date, source type (eg. newspaper or peer-reviewed journal), or language, among others.
3. **Specify fields for searching:** Almost all article databases allow you to specify what field you want to search in. Searching for subject terms can be especially effective.
4. **Use proximity connectors:** Some databases allow the use of proximity connectors: these differ in format so you should consult the help menu of the database you're searching in. Proximity connectors specify how far apart terms can be within the text that you're searching. An example would be:

### ***Malnourished w/3 children***

This would retrieve articles that contain the word “Malnourished” within three words of “Children”. Articles containing the phrase “children who are malnourished” would be retrieved; an article with the phrase “Children with only one parent are more likely to be malnourished” would not be retrieved.

**D. Dealing with too few results.** If you retrieved zero or only a few results, you’ll need to broaden your search.

1. ***Broaden one of your concepts, or remove it altogether.*** For instance, if our example search retrieved an insufficient number of results, perhaps we could replace the “preschooler” terms with broader terms, such as “child”, or replace “learning” with “development”.
2. ***Add additional terms using “OR”.*** The more synonyms you can think of for your search terms, the wider net you’ll be able to cast for retrieving results. One way to discover new terms is to “pearl-build” from one or two relevant articles that you’ve already retrieved. Examining the subject terms used for these articles can give you ideas for other terms to use in your search.
3. ***Use truncation.*** Most online databases allow you to use truncation to include different forms of a word in your search. Consult the database’s help menu for more information on the syntax used for truncation. An example would be:

***Malnourish\****

This would retrieve articles containing malnourish, malnourished, and malnourishment.

## ***Part 4: Do it all over again!***

Repeat and refine your searches, keeping articles that you see along the way that look relevant, until you're satisfied with what you've retrieved.

Searching is a learning process. Learn from each new set of results that you retrieve.

Mixing creativity with a systematic approach can be the best way to search effectively!

Don't be afraid to explore! Read help menus and experiment with features in the online databases that you use, to increase your repertoire of search skills and tricks.