

# Brainstorming Concepts and Effective Search Strategies



A Research & Library Skills Exercise ♦ 2012-2013  
[www.lib.umd.edu/infolit/engl-101](http://www.lib.umd.edu/infolit/engl-101)

Instructor's Name: \_\_\_\_\_ ENGL 101 Section: \_\_\_\_\_ Class Meeting Time: \_\_\_\_\_

Your Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Why break your research question apart?

By plucking out the main concepts or ideas in your research question you may find relevant information more efficiently. This strategy holds true whether you are searching the Libraries' Catalog (now also referred to as WorldCat UMD), databases linked in Research Port, or the web. Online library resources require you to enter keywords into the search box because entering an entire research question will not be as effective and may likely return poor if not zero results.

**Step 1 example:**      **Research Question:**      *Do hybrid cars cut down on gas consumption?*  
**Concepts/ideas/keywords:**      hybrid cars      gas consumption

After breaking apart your research question into concepts, you will need to brainstorm additional synonyms or keywords.

## Why is brainstorming synonyms and related words important?

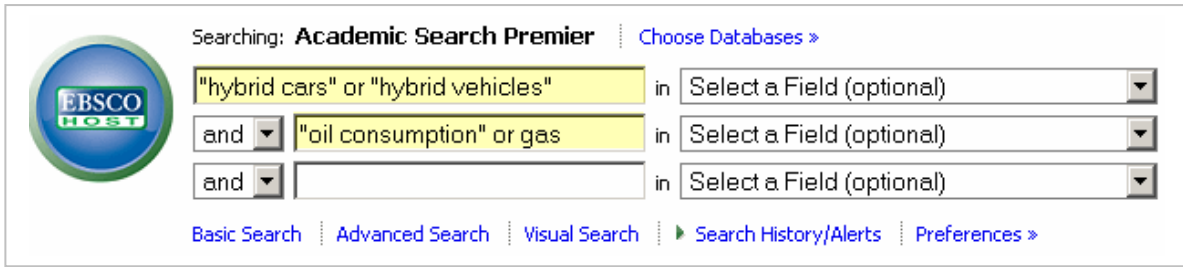
*Two hydrogen atoms bumped into each other recently. One said, "Why do you look so sad?" The other responded, "I lost an electron." Concerned, the first one asked, "Are you sure?" The other replied, "I'm positive!"*

Not everyone will use the same words in the same context (e.g., positive = meaning "sure" OR "a charged atom, not neutral"). The words that you choose may in some cases not be the best or typical terms used by authors or editors. The same reasoning applies when searching for books or articles.

**Step 2 example:**      **Synonyms/Related words for hybrid cars:** hybrid vehicles, hydrogen cars, electric cars  
**Synonyms/Related words for oil consumption:** gas, fuel consumption, petroleum, petrol

Take your concepts and synonyms and combine them in different ways in order to find relevant results.

**Step 3 example:** Use *Academic Search Premier*, a general database found in Research Port.  
Use quotation marks to form a phrase (e.g., "fuel consumption").  
See page 5 for more information about combining words using AND and OR.



## The Exercise

**Step 1:** This exercise will step you learn how to pick out the main concepts or ideas in a research question:

**TIP: Cross out words that are in the following categories:**

- “small” words (e.g., on, who, the, is, etc.)
- statements of timing (e.g., always, sometimes, often, etc.)
- “fuzzy” words / words that aren’t specific (e.g., should, get, against, etc.)

**Write the main concepts (one to two word phrases) on the line provided.**

**Example: *Does homework lead to academic success?***

*homework, academic success*

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***What are ways in which to prevent sports injuries in college students?***

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***How are public universities being affected by the economy?***

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***What are the health benefits of eating chocolate?***

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**Step 2:** Now, brainstorm synonyms and related words:

**TIPS:**

- Consider using a thesaurus to help you brainstorm.
- Select phrases that are commonly used word combinations.  
For example: “climate change” or “white collar crime.”
- Remember that using alternate spellings, singular vs. plural forms, capitalization, and even punctuation can result in different books or articles retrieved.
- Consider broader and narrower terms that convey the same ideas in your topic.  
For example, “Social Networking” is a broader term than “Facebook.”
- Use your previous knowledge of the topic to come up with related terms.  
For example, you can use the term “Division I” when searching for information about college sports.

**The Exercise:**

Use this research question: *Does homework lead to academic success?*

First, pick out the concepts/ideas of the research question:

Concept / Idea 1:	Concept / Idea 2:

Second, brainstorm three synonyms or related keywords for each concept/idea:

Synonyms / Related Keywords For Concept 1:	Synonyms / Related Keywords For Concept 2:

**Now, work through Steps 1 and 2 using your own topic:**

Write your research question or thesis statement in the box below. It should contain at least two concepts:

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Break down your research question:

<b>Concept / Idea 1:</b>	<b>Concept / Idea 2:</b>

Brainstorm some synonyms and related terms:

<b>Synonyms / Related Keywords For Concept 1:</b>	<b>Synonyms / Related Keywords For Concept 2:</b>

**Step 3:** Learn to combine your concepts & keywords into an effective search strategy:

**Search Connectors AND and OR: Why is it important to use them?**

Use the search connectors AND and OR (also called *Boolean* connectors) to combine your concepts and keywords. This strategy will allow you to quickly find information relevant to your topic in any online search engine.

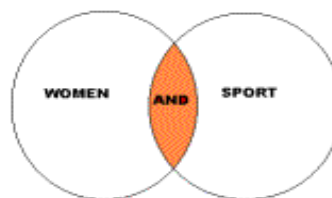
**Using AND:**

When using search engines, AND is used to narrow or target your search.

AND connects different concepts/ideas together. AND will find both of your concepts/ideas in the books or articles retrieved.

**Example:** *Imagine you are writing a paper on women in sports.*

AND connects concept 1 (women) to concept 2 (sports):



**The Exercise:**

**Mark the search strategies that use AND correctly by connecting different concepts/ideas together:**

“animal rights” AND legislation

marijuana AND pot

“health care” AND elderly

“college students” AND weight

storms AND hurricanes

college AND university

**Using your own topic, build an effective search strategy in the box below using AND to find books:**

Get Started Find Books & Media Find Articles Find Databases Search Our Website

Search for books, e-books, articles, journals & more through Worldcat UMD.

Search [Advanced Search](#)

[Classic Catalog](#) Search with WorldCat®

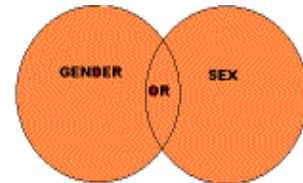
## Using OR:

When using search engines, OR will return MORE results. OR is used to broaden or expand your search.

OR connects related or synonymous concepts/ideas together. OR will find either or both of your concepts/ideas in the books or articles retrieved.

**Example:** *Imagine you are writing a paper on gender roles.*

OR connects synonyms/related words (gender or sex) together:



## The Exercise:

**Mark** the search strategies that use OR correctly by connecting synonyms/related words:

“animal rights” OR legislation

marijuana OR pot

“health care” OR elderly

“college students” OR weight

storms OR hurricanes

college OR university

**Using your own topic, build an effective search strategy in the box below using OR to find books:**

Get StartedFind Books & MediaFind ArticlesFind DatabasesSearch Our Website

Search for books, e-books, articles, journals & more through Worldcat UMD.

[Advanced Search](#)

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**More search strategies:**

- Use the **truncation symbol** \* to broaden your search. Using this symbol after the root of the word will find all of the possible word variations.

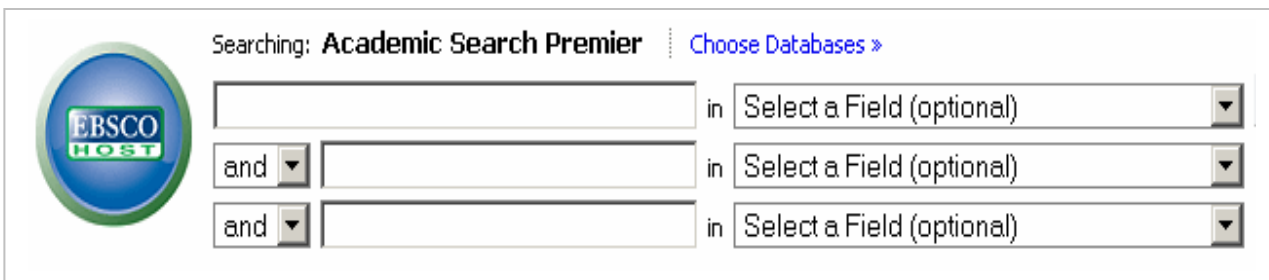
*e.g., **accessib\*** will find results that contain the words **accessible, accessibility, accessibly, etc.***

- Use quotation marks to find specific phrases:

*e.g., **“mentoring program”***

**The Exercise:**

**Using your own topic, build an effective search strategy in *Academic Search Premier* using AND and OR:**



**If you typed: photo\*** the search engine would search for words that contained the root of this word, and all variables after \*. Which of the following words would the search engine retrieve? Circle all that apply.

- |              |                |               |        |        |
|--------------|----------------|---------------|--------|--------|
| photos       | photography    | phoenix       | pho    | photo  |
| photographer | photosynthesis | photographers | phobia | photon |

Imagine you are searching a database for the phrase **“hybrid cars.”** How would you expand your search strategy using synonyms or related words to find more results?

\_\_\_\_\_.

How would you construct a search strategy so that you would find **all** of the following terms in the same article?

**birds, dogs, fish:** \_\_\_\_\_.