Planning ahead: Making your search work

My Learning Essentials CHEAT SHEET
www.escholar.manchester.ac.uk/learning-objects/mle/planning-search
The planning process

There are seven steps involved in planning your search:

1. **EXAMINE** your question
2. **IDENTIFY** your key concepts
3. **IDENTIFY** alternative search terms
4. **CONSIDER** using limits
5. **COMBINE** your search terms
6. **REVIEW** your results
7. **ADJUST** your strategy

We’ll now look at each of these steps in a little more detail.
Step 1: Examine your question

The first step is to define what your question is. You may already have been given your assignment title, but you still need to ensure that you thoroughly understand it. This includes:

1. understanding all of the terms in your question
2. knowing what depth of information you need
3. considering the parameters of your research, eg it may cover a particular time period or geographical region

ADVANCED TIP

In other cases, for example when writing your dissertation, you will set your own title. In such cases, you need to think carefully about the parameters of your research:

1. Is there enough literature on your topic?
2. Is the scope of your topic realistic?
Step 2: Identify your key concepts

The next stage is to identify the key concepts in your question.

Key concepts are the nouns in your assignment title. These are the different chunks of meaning that define what the question is about.

Other types of terms in your question might be:

- **Instruction words:** normally verbs, these tell you what to do with the information about the key concepts; eg evaluate, describe, assess.

- **Limiting words:** these may appear in your question to restrict to a particular location, timeframe, population etc.
Let’s look at an example:

“Evaluate the impact that genetic engineering has had on agriculture”

The key concepts in this assignment title are:

- genetic engineering
- agriculture
Step 3: Alternative search terms

The key concepts you have identified from your question are the topics you’ll be searching for.

It’s important to consider other words and phrases that might be used to describe these concepts, in order to perform a thorough search.

These alternative terms might take a number of forms:

- **Synonyms**: most concepts will have other words/phrases which have the same or a similar meaning as your original term.

- **Alternative spellings**: some terms might have different spellings, especially in American English. Wildcards allow you to do this.

- **Alternative endings**: you might want to search for different forms of the same root word, for example plurals or different tenses. You can use truncation to help with this.
Let’s return to our example:

“Evaluate the impact that genetic engineering has had on agriculture”

We’ve already identified the key concepts:

**genetic engineering**  **agriculture**

A list of alternative search terms for this title might look like this:

- genetic modification
- biotechnology
- gene targeting

- farming
- food
- crops

Using wildcards, we can reduce the number of search terms to:

- contaminat*
- Chin*
- pollution

- wildlife
- farming
- animal*
Step 4: Consider limits

Now that you have a list of search terms, you need to consider what limits apply to your search.

These limits may be dictated in your question, or you may wish to focus your research to a particular timeframe, location or field of study.

On a more practical note, you may also want to limit your search to publications in a particular language.
Let’s see how this applies to our example:

“Evaluate the impact that genetic engineering has had on agriculture”

Some the limits that might be useful in this example are:

- English language
- Published since 2005
- Studies conducted in the UK
Step 5: Combining your terms

Now that you have your list of search terms, it’s time to put them all together to perform a search.

There are two ways of combining search terms:

**OR**: This broadens your search, returning results that contain any but not all of your search terms. You would use **OR** to combine terms with the same meaning.

**AND**: This narrows your search, returning results that contain all of your search terms. You would use **AND** to combine search terms with different meanings.
Looking at our example again:

"Evaluate the impact that genetic engineering has had on agriculture"

This is how the search would look with all of our concepts combined:
Step 6: Review your results

Once you’ve finished formulating your search, it’s time to start searching.

It’s important to remember that searching is an iterative process; you will often not get the results you want immediately.

You’re satisfied with the list of results returned from your original search, you may stop at this point. If you get too many or too few results, you will need to adjust your search strategy. We’ll look at how to do that next.
Step 7: Adjust your strategy

There are two common issues you may encounter with your searches: too few results, or too many results. If you have too few results, you may not have enough literature to work with for your assignment. A lot of results might sound like a good thing, but you may waste a lot of time sorting through them to identify which results are relevant.

There are a number of things you can try to adjust your strategy:

**Too few results**

- Think of some additional alternative terms for your key concepts
- If you have multiple concepts, remove the least important one
- If you have used limits, remove some of them
- Use truncation or wildcards to pick up alternative word endings

**Too many results**

- Use narrower, more precise search terms
- Remove some of your alternative search terms
- Add another concept to focus the area of your research
- Use more limits
Returning to our example, this is how our original search strategy looked:

Step 7: Example

This is how we might adjust our strategy for too few results:

pollution
  OR
contaminat*
  OR
air pollution
  OR
climate change

AND

wildlife
  OR
fauna
  OR
animal*

AND

Chin*
  OR
Sino

AND

pollution
  OR
contaminat*
  OR
air pollution
  OR
climate change
  OR
acid rain

AND

wildlife
  OR
fauna
  OR
animal*

AND

Chin*
  OR
Sino
  OR
Beijing
  OR
Shanghai
Original search strategy looked:

- pollution
  - OR
  - contaminat*
  - OR
  - air pollution
  - OR
  - climate change

AND

wildlife
- OR
- fauna
- OR
- animal*

AND

Chin*
- OR
- Sino

This is how we might adjust our strategy for too many results:

- pollution
  - OR
  - contaminat*
  - OR
  - “air pollution”

AND

wildlife
- OR
- animal*

AND

Chin*
Summary

We have looked at the stages of planning your search in detail:

1. **EXAMINE** your question
2. **IDENTIFY** your key concepts
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You should now see how taking a planned and structured approach to your searches will save you time but providing you with better, more relevant results.
Related resources

1. Knowing where to look: your search toolkit
2. Shopping for information: introducing subject databases
3. Know your sources: types of information