

Search Strategy

To carry out effective searches on electronic databases, you need to understand how these systems work, and how to plan a search to take full advantage of them. Most electronic search systems are based on Boolean logic. This uses two main logical operators or links.

- Using 'or' links words or ideas as alternatives. This allows you to use alternative words or phrases to describe the same idea. It will widen your search and find more material.
- Using 'and' means that both words or ideas must be present. This will narrow your search and make the results more relevant.

You need to plan your search so that you can get the right balance between the quantity of references you find and their relevance to your subject.

Planning a search

1. Analyse your question to identify the different ideas or concepts contained in it.
e.g. I want materials on gender issues in science education at secondary level.
There are four concepts here:
gender; issues (what issues?); science; secondary education.
2. Make a list of words to describe each idea, linking the alternatives with 'or'. The more alternatives you offer, the more comprehensive your search will be. As a second step these different ideas will be linked together with 'and' to narrow the search to precisely the material you want. It helps if your strategy shows clearly which link you are using.

For example:

gender or sex role or sex stereotypes or girls or boys or males or females or.....

AND

achievement or underachievement or performance or success or failure or choice or ...

AND

science education or physics or chemistry or biology or...

AND

secondary education or adolescents or key stage 3 or key stage 4

3. Decide on an order of importance for your concepts. Each one you add will narrow the search - you may not need to use them all. In the example above 'gender' and 'science' are clearly essential ideas, and will be the first to be entered.

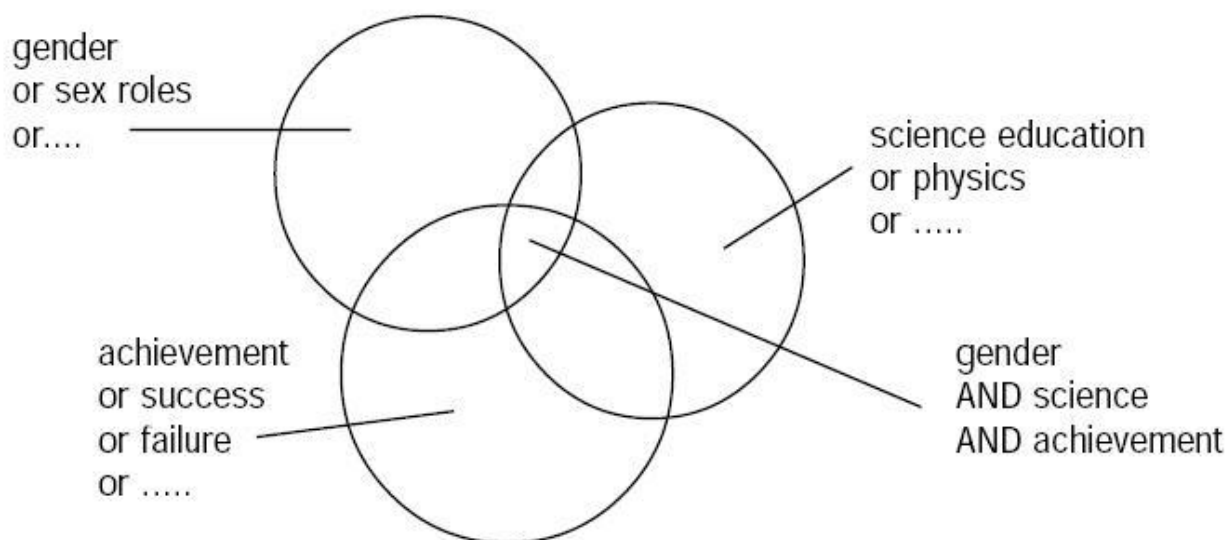
The list referring to achievement, success, choice etc is a long one - if all these factors are of interest, it may not be necessary to spell them out: any material linking science and gender

would be useful. If this produces too wide a search, specific terms from this list could be added at a later stage.

Level of education or age group is often best left until last, depending on how much material is found. If there isn't much, you may want to see studies on other age groups. If there is a lot, you may want to limit your search to just this age group.

4. Enter your concepts one at a time, linking each group of words with the 'or' operator, or its equivalent on the system you are using. This will find a huge number of references - don't worry.
5. Link your concepts using the 'and' operator, or its equivalent, to narrow your search. Use the most important ideas first, and then review your results. How many references have you found? Is it still too many? Look at a sample. Are they relevant? Then decide if you need to widen your search by revising your word lists and starting again, or to narrow it further by adding another concept. Continue with the process until you have the quantity and quality of information that you want.

The process of searching using Boolean logic is often represented in a diagram like this:



Each circle represents one concept - everything you have found by linking terms with 'or'. The overlap between them is what remains when you make a link with 'and' - only those items which refer to both concepts.

Applying the theory

The systems you meet in this library and on other web sites - catalogues, databases, search engines, journal indexes etc - are all based on the same principle, but the software presents the process in a different way in each case.

For further IOE Library Guides see www.ioe.ac.uk/services/344.html

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