

Effective searching strategies and techniques

Getting the most from electronic
information resources



Objectives

- To understand the importance of effective searching
- To develop guidelines for planning and implementing searches
- To understand and gain experience of structuring effective searches
- To gain hands-on experience of effective searching in a range of electronic information environments



Effective searching can allow us to

- Find the materials we want amongst the huge number of online resources available
 - Google claims it searches >3 billion web pages
 - More than 20,000 full text journals are online
 - Newspapers, databases, books, company web pages, dictionaries, encyclopaedias, individual home pages, etc, are also online
- Make efficient use of limited access to PCs and bandwidth
- Save time and money



REMEMBER

- You (and your end users) may already have searching skills that are useful in both the print and electronic worlds
- These can be enhanced by understanding how electronic searching works



Planning a search strategy

- Define your information need
 - Decide which sources to use
 - Find out how they function
 - Run your search
 - Review and refine you search
- This process can be started away from the computer



Define the Better Source

● Quantitative Information?

- Use Meta Search Engines or Search Engines for General Information
- Specific information, e.g. a fact or date
 - Reference source, e.g. data book, .
- General information, e.g. research areas
 - May require more thought, including how much information is needed and at what depth

● Qualitative Information?

- Use Virtual Libraries, Subject Directories
 - encyclopaedia, dictionary, the Web or even a textbook are usually best
 - This might effect which sort of information you require.



Consider Domain name Extensions

- **What is it?**

- Every web page over internet has an extension followed by domain name it defines the content of the site.
- These are com, net, edu, ac, org, info etc.
 - Sometimes these are further divided by country like pk, au, uk etc.

- **Consider Quality**

- Normally com is used for commercial sites having commercial content (Search engines)
- Normally Extensions like edu, ac and org have authentic content (Virtual Libraries)
(there is no formal definition of quality it is according to user's need itself)



Remember

- Never use phrases if you are looking for some topic or subject
- Use complete phrases only when you are looking for the exact phrase
- Break your concept in key concepts or terms
- Before starting searching think (WWH) what, where and How
- It will save your time and bandwidth



Define your information need cont...

- Careful choice of search term(s) is *vital*
 - What key words do you think will appear on the site/article you want?
 - What key concepts is it a part of or related to?
 - Are there any synonyms for these keywords or concepts?
 - Are there any alternative spellings for your keywords/concepts
 - Are plurals or capitalisation involved?



I want to find information about the health implications of water pollution

Keywords: 'water' 'pollution' 'health'

Concepts: 'environmental degradation' or 'agricultural management' or 'health'

Synonyms:

- rivers, lakes, sea, coastal, 'domestic water', etc
- 'oil spills', chemical, biological, etc

Alternative spellings: none

Plurals: river(s), lake(s), disease(s)

Capitals: maybe the name of a specific lake, disease, region



Decide which sources to use

- What sources are appropriate for your information need?
 - Individuals' and organisations' home pages
 - Newspapers and magazines
 - Subject gateways, databases, catalogues
 - Journals—titles, abstracts or full text
 - Reference resources, e.g., encyclopaedias, dictionaries
 - Books
 - Grey literature, e.g. government publications
 - Print or electronic



Electronic search tools

- Help you sift through the huge range of information available
- Use keywords to browse or perform simple or advanced searches
- All function slightly differently



How they function

- Electronic search tools may interpret your search terms using
 - Boolean operators
 - Phrase and proximity searching
 - Truncation or wildcard functions
 - Case sensitivity
 - Fields
 - Stop words
 - Relevance sorting

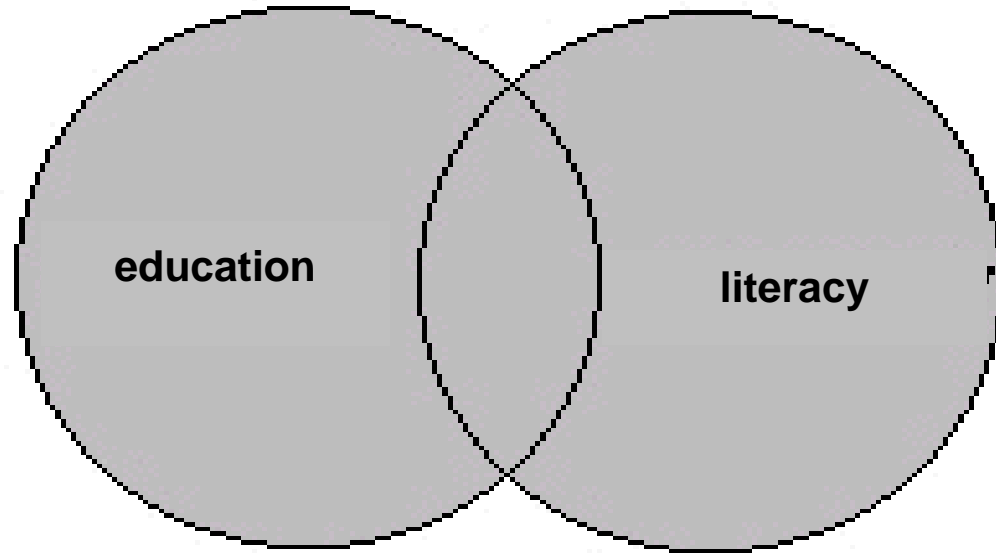


Boolean searching

- Uses commands (operators) such as AND, OR, NOT
- Different search tools may use different symbols
 - AND +
 - NOT –
- Different search tools may use OR or AND as a default setting
- Sometimes Boolean operators must be entered in capital letters (e.g. Synergy)



OR

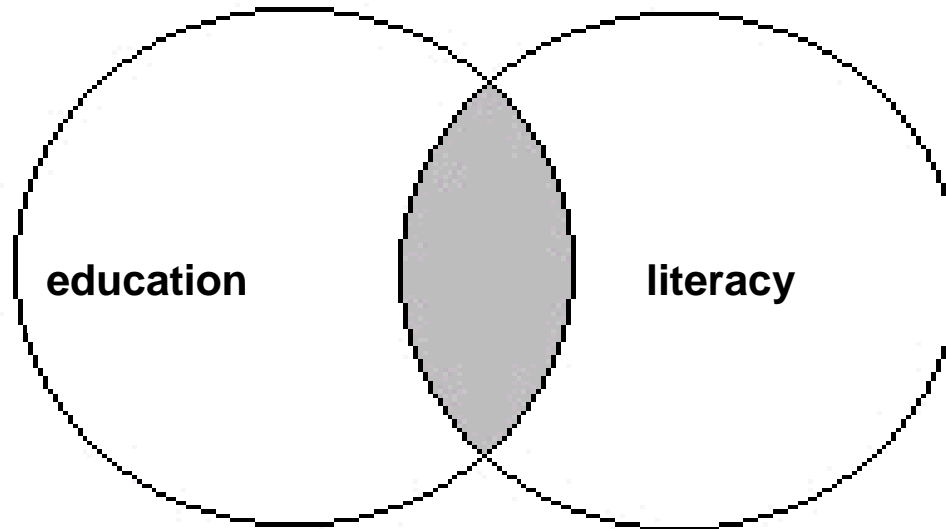


**Query: I would like information
about education or literacy**



**Punjab University
Library**

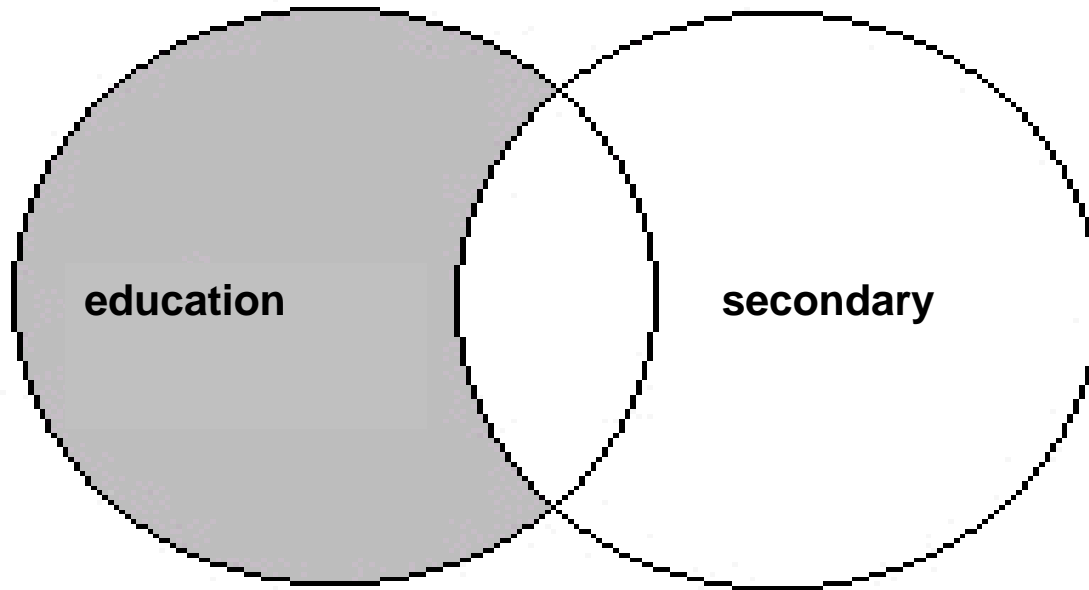
AND



**Query: I'm interested in the
relationship between education
and literacy**



NOT



Query: I want to see information about education, but I want to avoid seeing anything about secondary



Phrase and proximity searching

- Using quotation marks allows you to search for an exact phrase, e.g. “information literacy”
- Using NEAR allows you to specify how close to each other the terms you are searching for should be



Truncation or wildcard searches

- Truncation: place a symbol at the end of the word so you search for variant endings of that word
 - e.g. litera\$ would look for literature, literacy, literal
- Wildcards: place a symbol within a word to find variations on it
 - e.g. analy*e would find analyse or analyze
- Different symbols - including \$ * # ! : - are used by different search tools



Other variations in search tools

- Case sensitivity: use of upper or lower case in search terms
- Fields: searches in fields such as the title, URL or links
- Stop words: searches may ignore common words such as 'and', 'if', 'an', 'the'
- Relevance sorting: relevance is measured in different ways in different search tools
- Brackets may be used to order the search, e.g. (literacy AND education) NOT secondary



Citation searching

- Also known as 'cited reference searching',
- Finds all material that cites a particular work
- Many electronic resources provide easy to use citation searching or include facilities that offer this
- Useful when cited work is of a high quality, by leaders in a field



Run the search

- Take the terms/keywords you have decided on
- Find the sources you are going to search
- Read the 'Help' page to find out how that particular source uses Boolean commands, wildcards, etc
- Run the search



Review and revise your search

- Hopefully you have found what are looking for, or at least places to start from, but
 - Be prepared to review and revise your search scope and strategy
 - Try new sources of information (familiarity is sometimes too easy)
 - Start again near the beginning of this process if you need to



Collect the information

- Evaluate the information to ensure it is relevant, accurate, of high enough quality, etc
- Collect it either via printing, pen and paper, floppy disk, email, saved searches
- Ensure you keep a complete record of the source of the information for citing later



Use the information

- As a researcher
 - Promote resources and facilities to your colleagues
 - Encourage the adoption of successful strategies and techniques with others
- As a librarian/information intermediary
 - Promote high quality resources to your users
 - Encourage users to adopt techniques and strategies that you have found successful
 - Pass on your expert knowledge



Summary

- Developing and encouraging people to use effective searching strategies is essential
- The use of a search strategy checklist should be encouraged
- Understand and use advanced searching
- Boolean searches are powerful and under used
- Learn the search routines for all packages and electronic information sources

