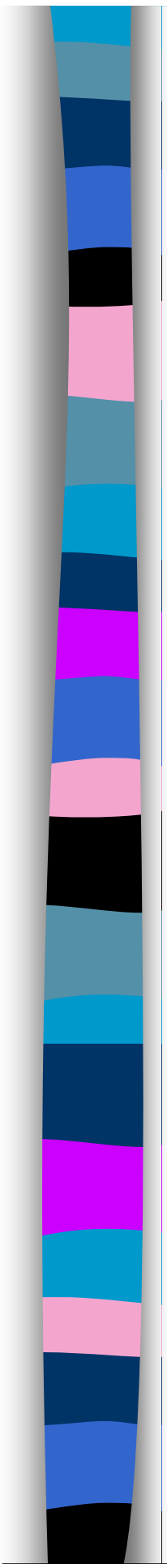


SEARCH TECHNIQUES PRACTICAL TIPS



by
- Julio Dizon, Jr. -

Three Basic Search Tools

- Search Engines
 - large, spider-created databases of web pages that help searchers find specific information on any given subject. These engines are not intuitive and cannot infer dynamically what it is you might be searching for.
Examples: Google, Yahoo, AltaVista, Lycos, MSN Search, AOL Search, OmniMedicalSearch (<http://www.omnimedicalsearch.com>), WebMd (<http://www.webmd.com>), PubMed (<http://pubmed.gov>), Healthline (<http://websearch.about.com/od/enginesanddirectories/a/healthline.htm>), Healthfinder (<http://www.healthfinder.gov/>).

Three Basic Search Tools

- Subject Directories
 - in general, smaller and more selective than search engines. They use categories to focus your search, and their sites are arranged by categories, not just by keywords. Subject directories are handy for broad searches, as well as finding specific web sites. Most subject directories' main purpose is to be informational, rather than commercial.

Examples: [Open Directory](#), [Rollyo](#), [Yahoo](#)

Three Basic Search Tools

- MetaSearch Engines
 - They get their search results from several search engines. Users will receive the best hits to their keywords from each search engine. MetaSearch tools are a good place to start for very broad results, but do not (usually) give the same quality results as using each search engine and directory. Examples: **Dogpile**, **Clusty**, **ZapMeta**.

Planning Your Search

- Identify your concepts.
- Break down your topic into its separate concepts.

Example: effects of *Global Warming* on *Health*

Planning Your Search

- List search terms describing each concept.

Example: global warming
climate change
greenhouse effect

Planning Your Search

- Specify logical relationships among the search terms.
 - Establish logical relationships among them by using search operators.

Choosing Search Terms

- Search terms must be specific or closely related to the topic of interest, such as:
 - Terms you might use when discussing the topic with a colleague, e.g. kidney disease OR renal failure
 - Terms that reflect ideas essential to your topic, e.g. treatments, cures, or side effects.
 - Alternative words and abbreviations, e.g. mri OR magnetic resonance imaging

Keyword Search

- will retrieve records where that word occurs in any field in any record: author, title, subject heading, publisher, notes, etc.
- can be applied to one field or to all the fields in the bibliographic record.
- useful at the beginning of a search and can help you to find a good subject heading to use.

Subject Heading Search

- finds only the most relevant records on a subject or topic.
- retrieves only records containing the same search terms in their Subject Heading field.
- the terms in the Subject Heading field are taken from a controlled vocabulary or thesaurus, e.g. **Medical Subject Headings (MeSH)** for medicine and allied health sciences
<http://www.nlm.nih.gov/mesh/MBrowser.html>.

Example of a Subject Heading

http://www.nlm.nih.gov/cgi/mesh/2006/MB_cgi

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go Links

Address http://www.nlm.nih.gov/cgi/mesh/2006/MB_cgi

National Library of Medicine - Medical Subject Headings

2006 MeSH

[Return to Entry Page](#)

Please select a term from list:

- [Advance Care Planning](#)
- [Community Health Care Planning](#)
- [Health Facility Planning](#)
- [Health Planning](#)
- [Health and Welfare Planning](#)
- [National Health Planning and Resources Development Act of 1974](#)
- [State Health Planning, United States](#)
- [Health Planning Councils](#)
- [National Council on Health Planning and Development](#)
- [Guidelines for Health Planning](#)

start Internet 08:42

Capital Sensitivity

- In many instances, it is better to leave the search terms **uncapitalized** so that the results contain them in either **Capitalized** or **uncapitalized** form.
- **Example: AIDS, Aids, aids** will return the same number of results.

Search Operators

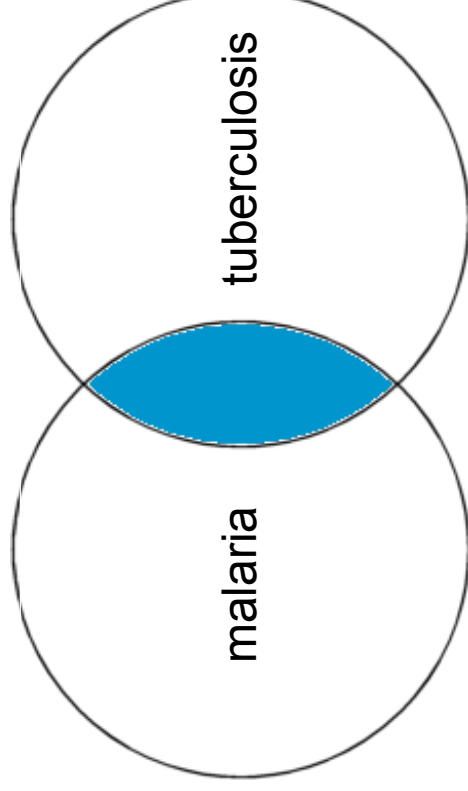
- Allow you to focus your search by linking search terms and defining the relationship between them.
- Not functional when they are at the beginning or end of a search expression.

Boolean Operators

- Connect terms and locate records containing matching terms in **one** of the specified field, **both** of the specified fields, or **all** of the specified fields.
- These are: **AND, NOT, OR, XOR**
- Either in **UPPERCASE** or **lowercase**, depending on the search instructions for the search engine or database.

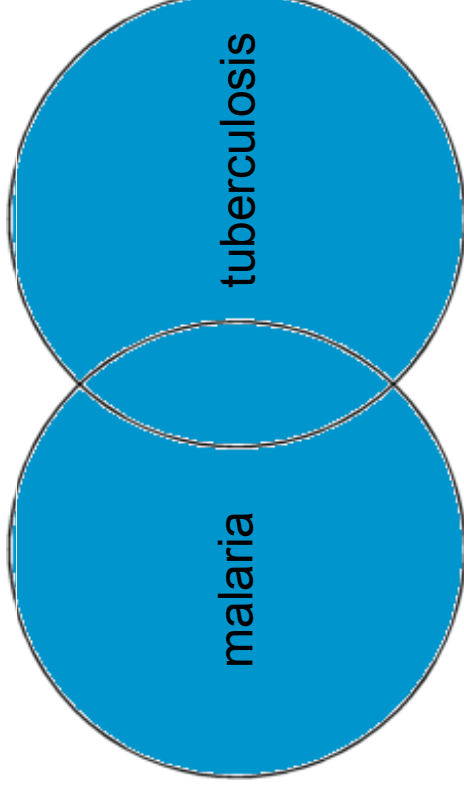
AND Operator

- **AND (Intersection)** will narrow a search; retrieves items containing all the search terms. This is the default logic in nearly all general search engines on the Web.
- *Type in:* malaria **AND** tuberculosis



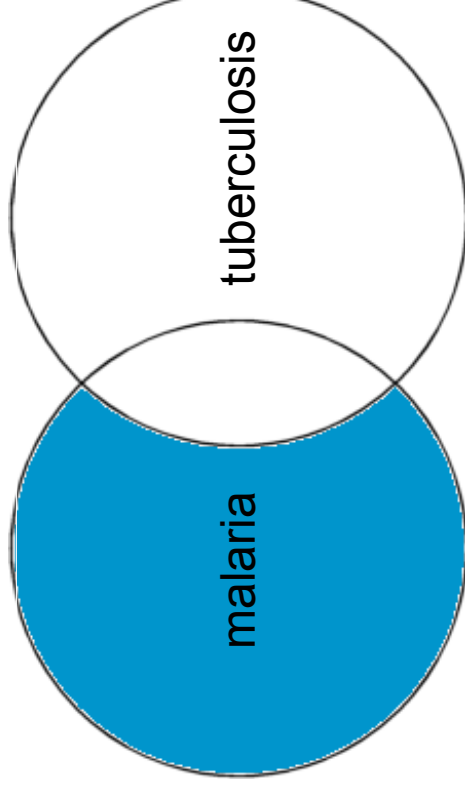
OR Operator

- **OR (Union)** will broaden a search; retrieves items containing either search term or both search terms. Used to search for synonyms and common spellings of some search terms.
- *Type in:* malaria **OR** tuberculosis



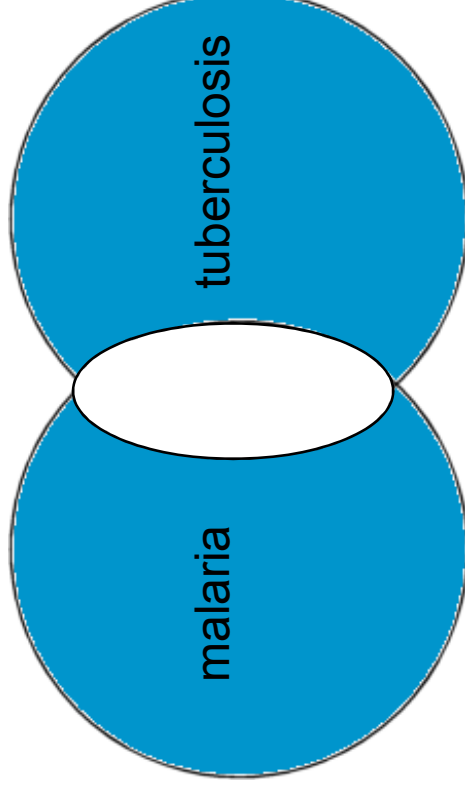
NOT Operator

- NOT (Difference)
will narrow a search; excludes items containing search term 2 or both search terms 1 and 2. Sometimes use as **AND NOT**.
- Type *in*: malaria **NOT** tuberculosis



“XOR” Logic Operator

- XOR (Exclusive OR) will broaden a search but only retrieves items matching either search term but not both search terms.
- *Type in:* malaria XOR tuberculosis



Plus (+) Sign

- Some search engines or databases use the **+** sign to include all of the search terms in the search results. This is the variant of the **AND** Boolean operator. All the search terms, including the first word, must be preceded by the **+** sign. This also disables the search for synonyms.
- Example: **+global +warming**

Minus (-) Sign

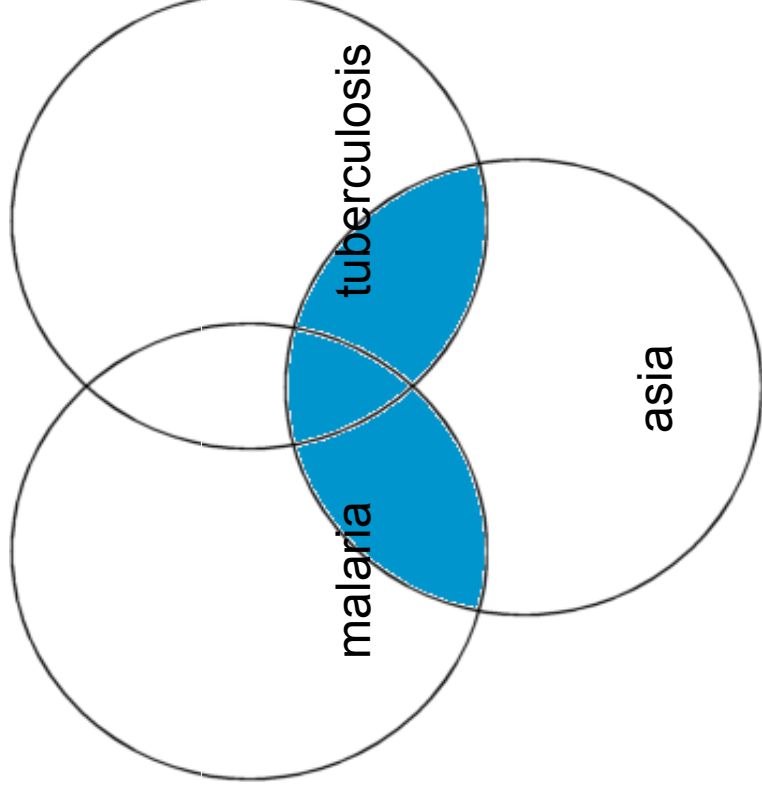
- Some search engines or databases use the - sign to retrieve results that do not contain a particular word. This is the variant of the **NOT** Boolean operator.
- Example: **global -warming**

Parentheses for Nesting Search Terms

- Most common use of **parentheses** is to enclose two keywords separated by **OR** and link them with keyword/s using **AND**. The terms inside the parentheses are processed first; *i.e.* operators inside parentheses have priority over, or operate before, operators used outside parentheses.
 - **Example: Asia AND (malaria OR dengue)**
- There are instances, however, when the reverse arrangement may be useful.
 - **Example: “tobacco control” OR (legislation AND tobacco)**
- You can nest one set of parentheses inside another. Each left side parentheses must be paired with a right side one.
 - **Example: “tobacco control” OR (tobacco AND (legislation OR law*))**

AND, OR Operators with Nesting

- *Type in:* Africa AND (malaria OR tuberculosis)



Positional Operators

- Locate records in which the search terms are in close proximity within the same bibliographical record.
- Can be used to connect words or phrases within a search field but not between search fields.
- These are: **SAME, WITH, NEAR, ADJ**

SAME Positional Operator

- Locates records in which the field contains **all of the search terms** though not necessarily in the same sentence.
- **Example:** malaria **SAME** dengue
- Locates records with malaria and dengue in the same sentence or either term is in another sentence but within the same field, e.g. title, abstract, etc.

WITH Positional Operator

- Locates records in which all of the search terms are in the same sentence in the same field.
- Example: diabetes WITH children
- This locates only records containing “diabetes” and “children” in the same sentence in a field, e.g. title, abstract, subject, etc.

NEAR Operator

- This is a more specific form of the **AND** operator. It ensures that the retrieved results contain both search terms and that they are located near each other.
- Locates records in which a field contains all of the search terms next to each other; however, the order of the terms does not have to match the order they were entered.
- **Example:** smoking **NEAR** tobacco and tobacco **NEAR** smoking

ADJ Positional Operator

- Locates records in which a field contains all of the search terms adjacent to each other and in the order they were entered.
- **Example:** **social ADJ economic** will not retrieve records where **economic and social** are adjacent when entered in the field.

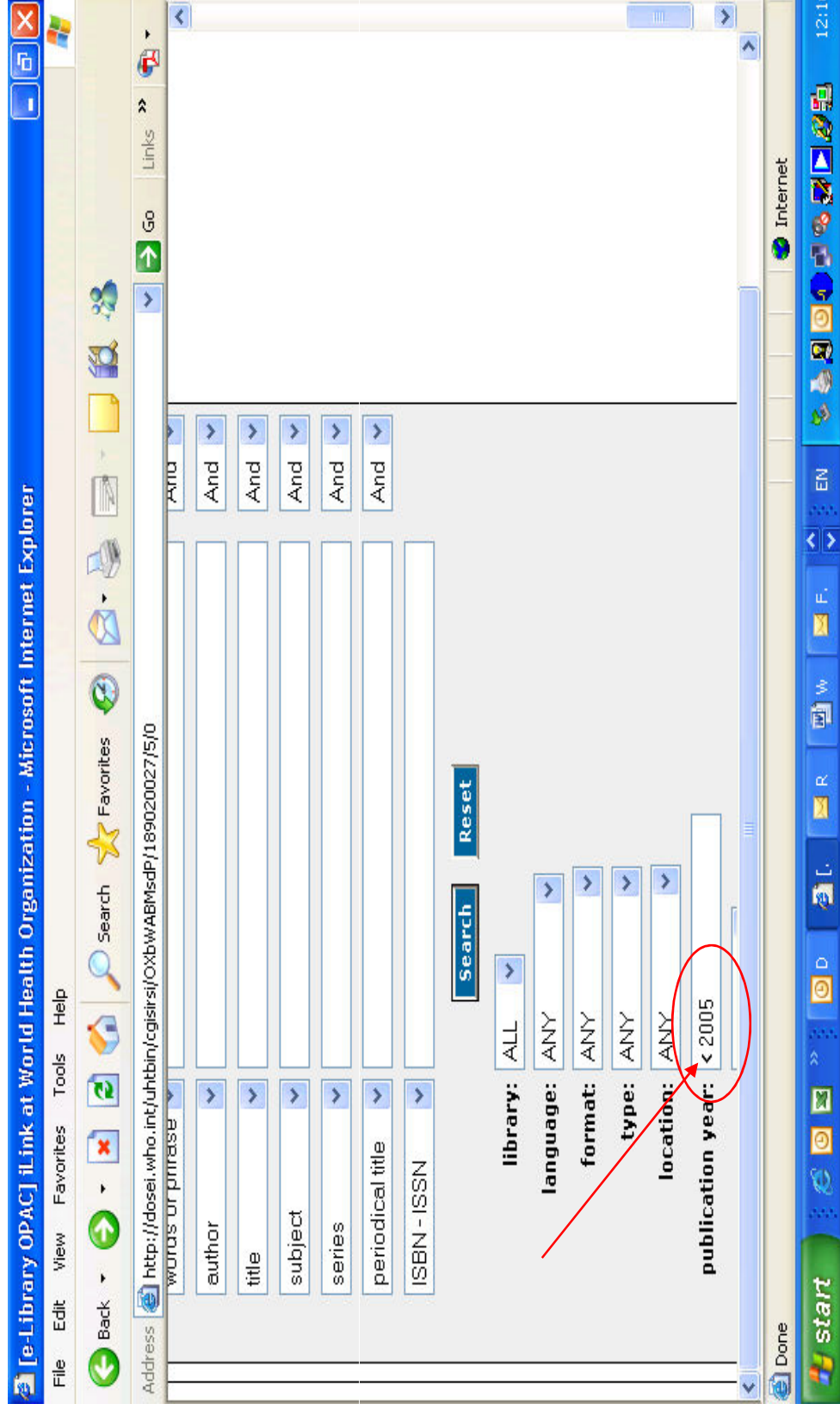
Relational Operators

- Allow you to search numerical expressions.
- Enclose a field name or entry tag number in braces { } or look for the appropriate field in a database search grid, then type the relational operator and number.
- **Example:** {DATE} <991022 (retrieves records whose Date field contains values less than 991022)

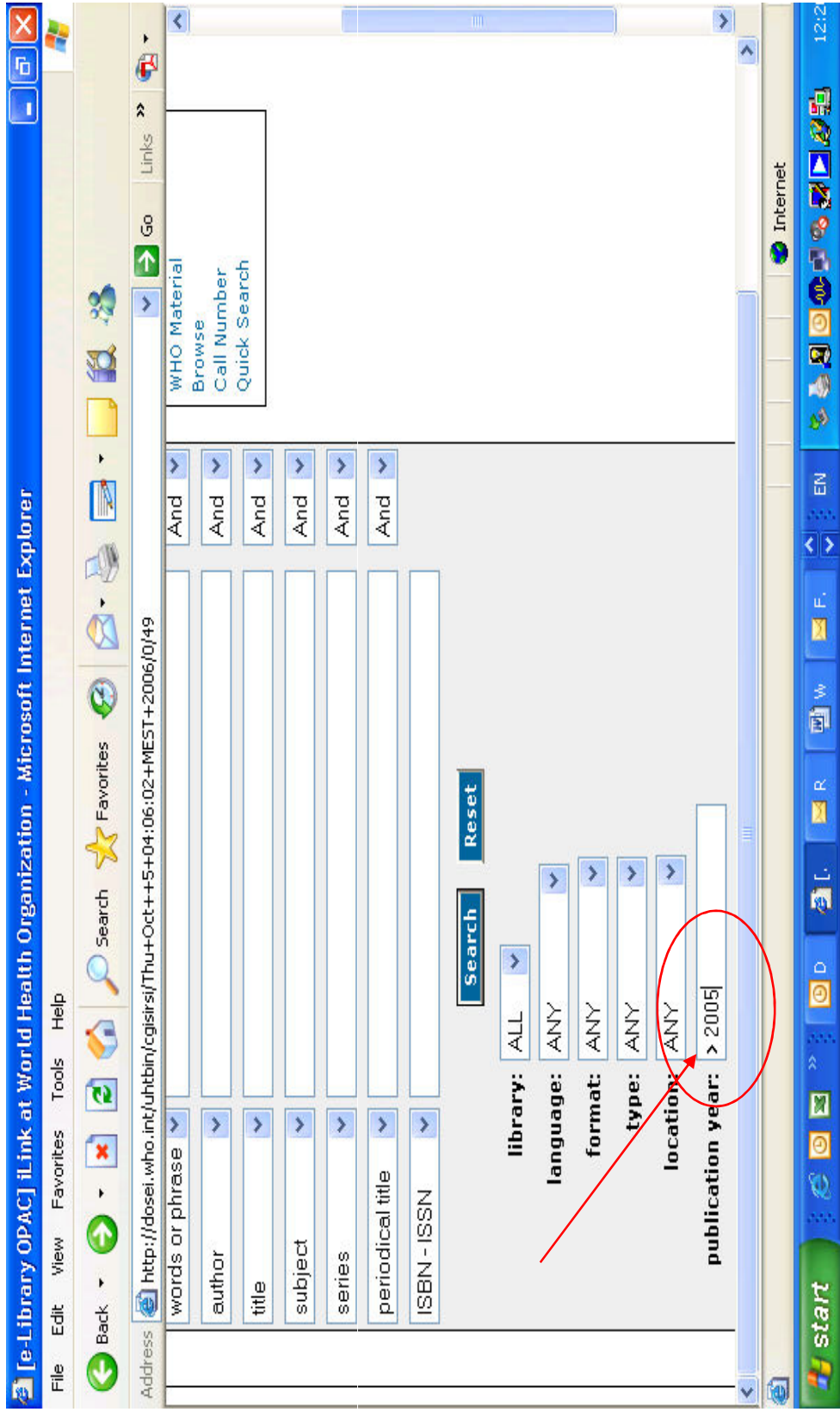
Relational Operators - 2

<u>Operator</u>	<u>Definition</u>
<	less than
>	greater than
=	equal to
<>	not equal to
<=	less than or equal to
>=	greater than or equal to

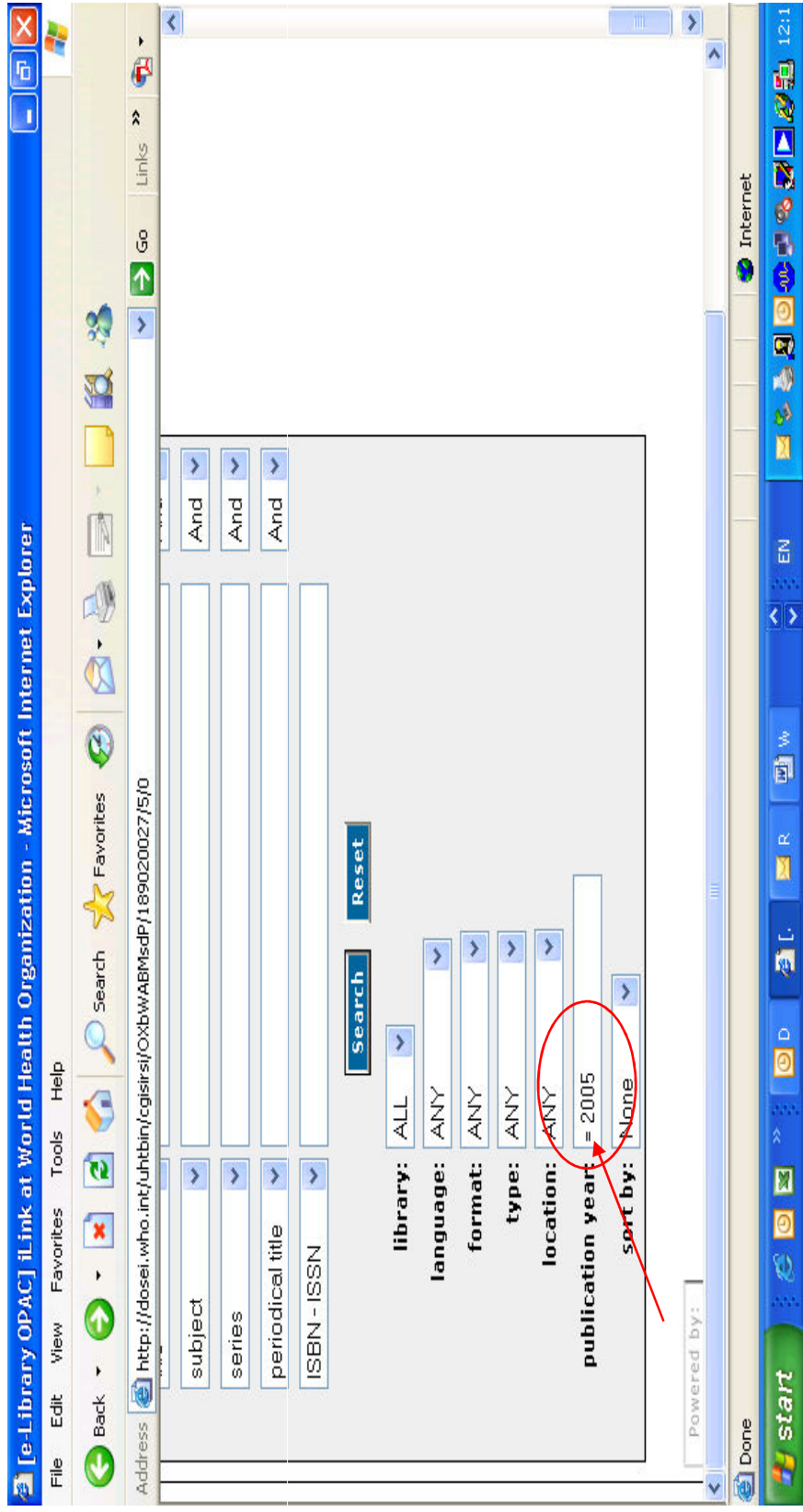
Search Using the “<” Operator



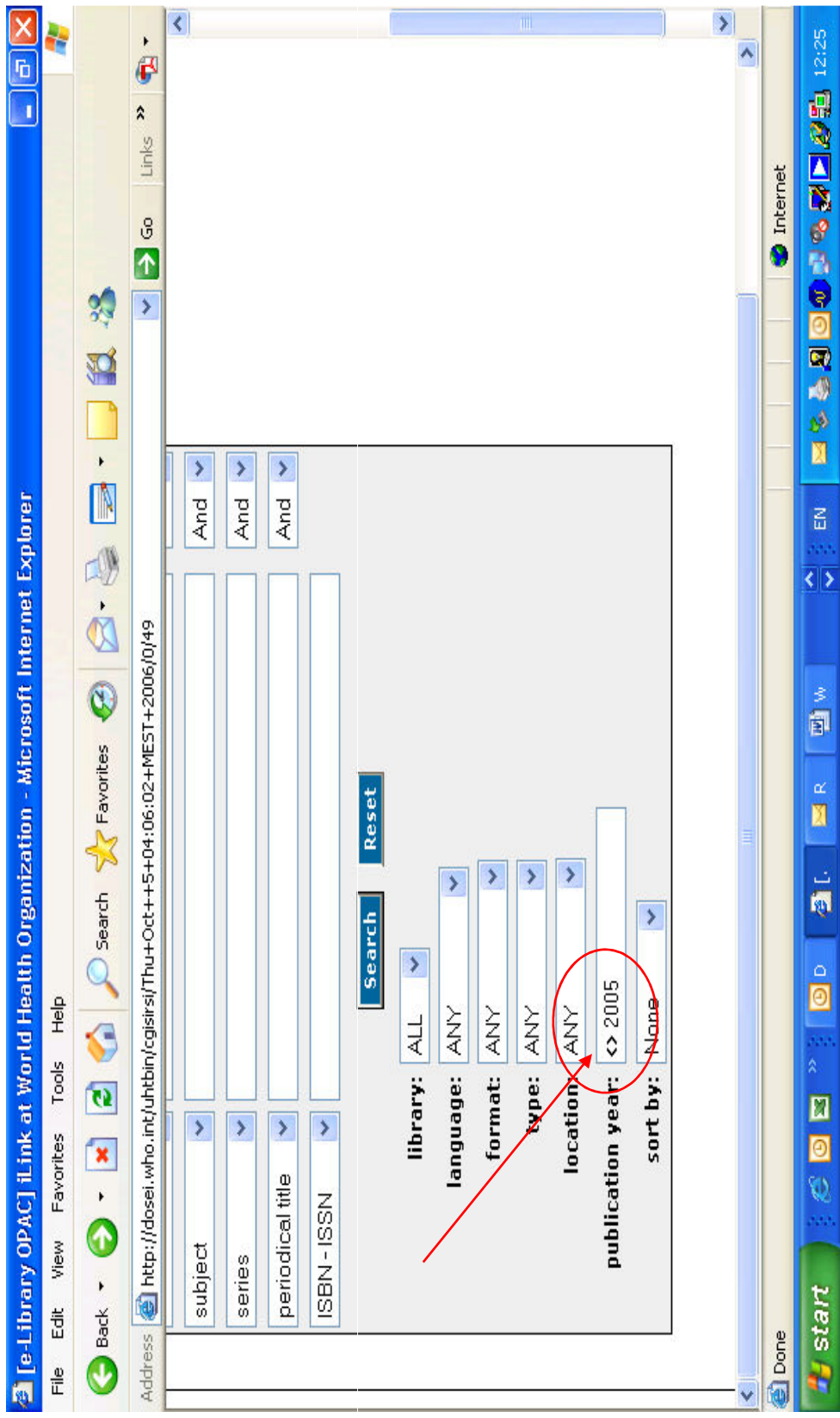
Search Using the “>” Operator



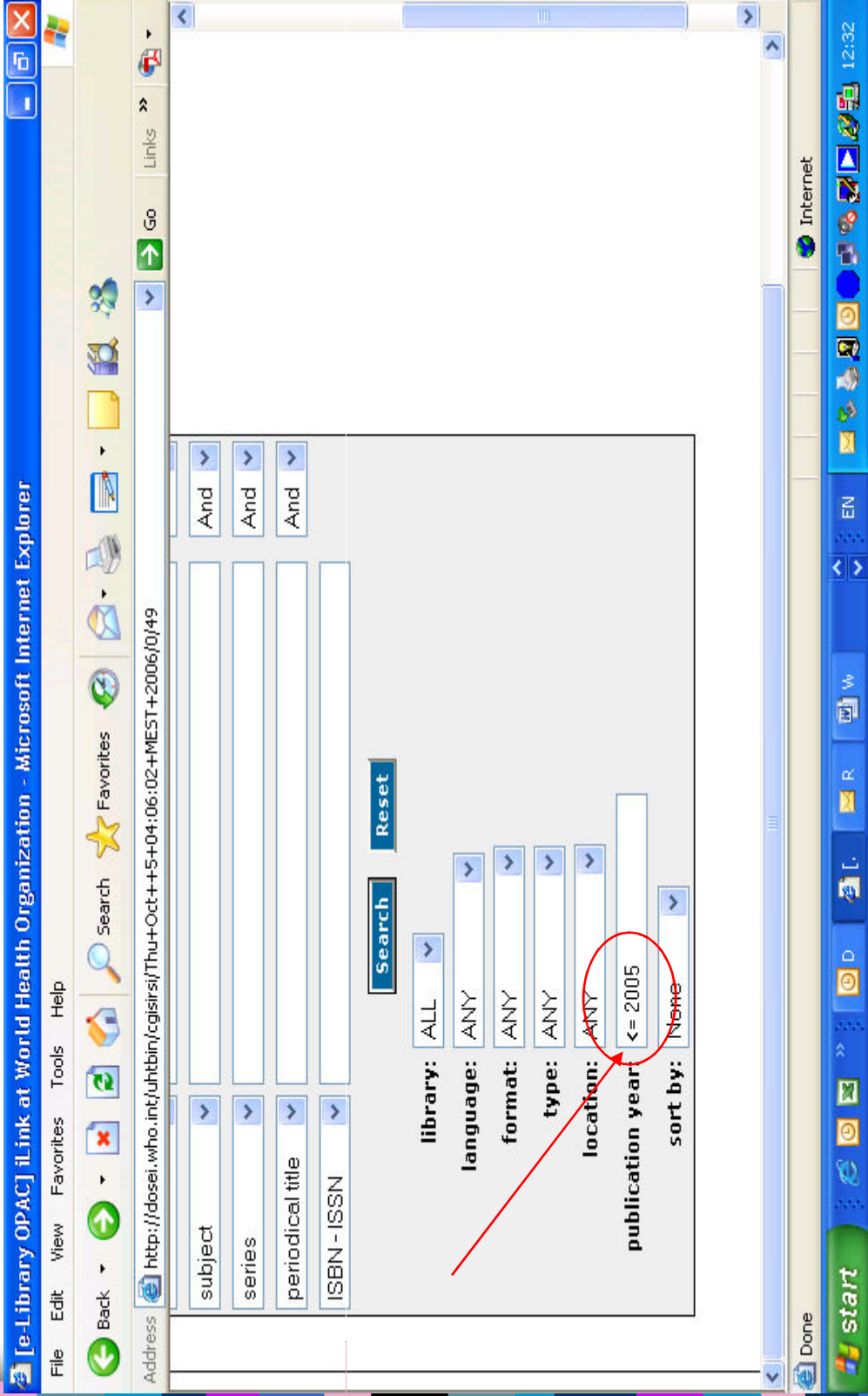
Search Using the “=” Operator



Search Using “<>” Operator



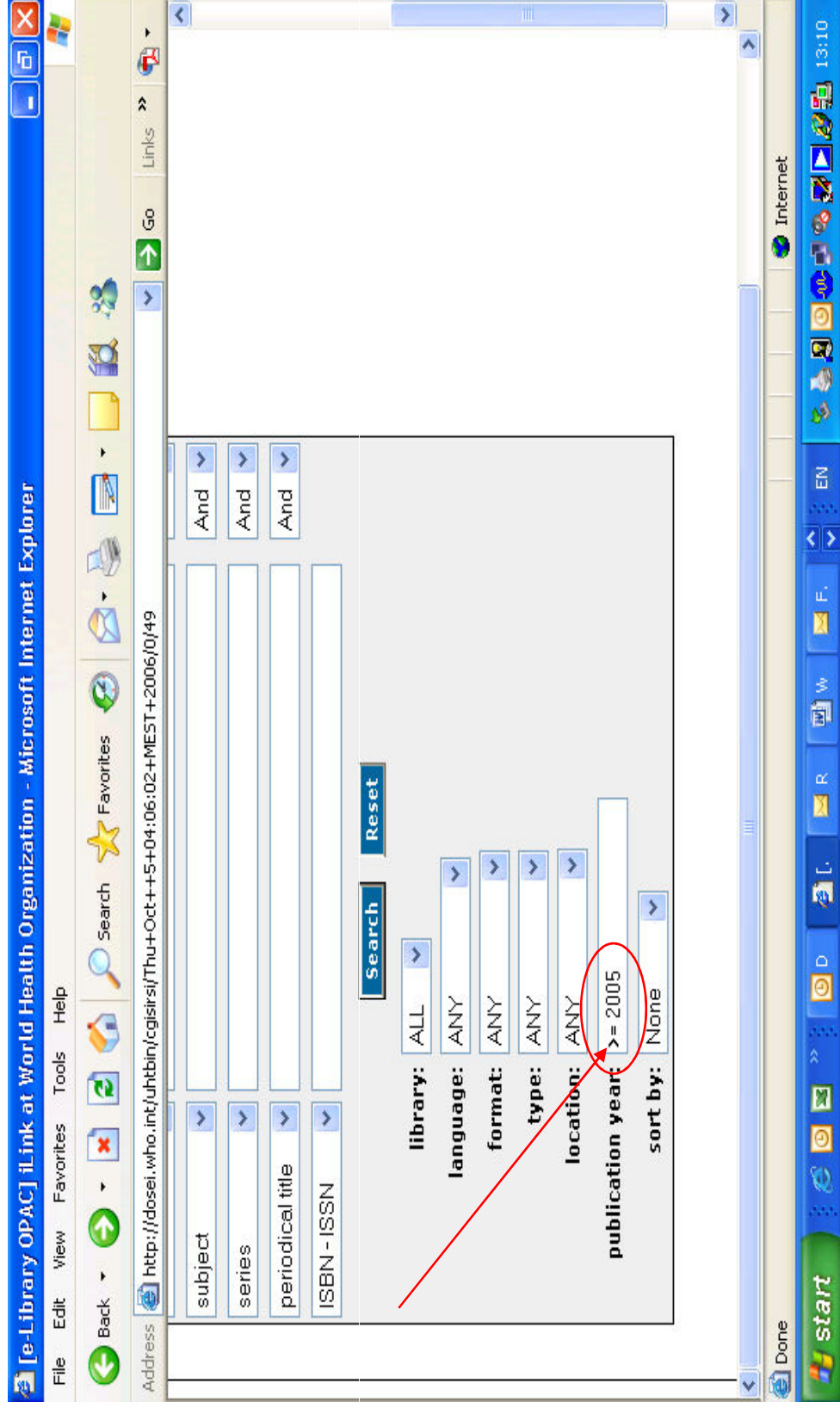
Search Using “<= ” Operator



3/8/2010

WHO Library

Search Using “>=” Operator



Phrase Searching

- Some databases allow searching of a phrase by enclosing it in **double quotes**, thus retrieving results containing the exact phrase only.
 - **Example:** “swine flu”
- Useful when you want to include **STOP WORDS** (**e.g.** a, and, the, in, it, etc.) in the search.
 - Example:** “vitamin a”

Substitution

- The **question mark (?)** can be used to substitute for a missing character within or at the end of a search term.
- Usually use when you are unsure of the spelling or you want to find two forms of a word.
- **Example: wom?n** would search for **woman** and **women**.
- When use at the end of a search term, it will not find items containing the root word.
- **Examples: bacteria?** will only retrieve items containing the word **bacterial** ; **transplant??** will find items containing words such as **transplanted** and **transplanter**.

Wildcards/Truncation

- The dollar symbol (\$), asterisk (*), plus (+), etc. can be used to substitute for one or more letters within or at the end of a word. This depends on what symbol is allowed by the database being searched.
- A number after the \$ symbol will limit the number of characters matched.
- Example: **bacter\$3** will search for **bacter**, **bacteria**, **bacterial** but not **bacteriology**.
- Note: All search terms having the specified root are **ORed** together.

Punctuations / Special Characters

- Subscript and superscript characters are entered on the same line as the other characters, e.g. H₂O.
- Enter accented characters as the same characters without the accent mark.
- Certain non-alphanumeric special characters (e.g. arrows, asterisks, brackets, bullets, daggers, hyphens, plus, tilde, etc.) are either replaced with spaces or ignored in searching.

Restrict Search to Specific Part of a Document

- Some search engines can limit searches to specific areas, such as document title and URL.
- Example: Search for web pages on Alternative Medicine which have the keywords in the titles, use the syntax:
title: alternative AND medicine
- The exact technique for doing this, however, can differ among search engines. Use of the **Advanced Search** page of the search engine may be helpful.

Site Search

- Search can be done on the top-level and second level domain names together.
- Examples of sites: **cdc.gov, who.int**
- To search a site, use the syntax:
search term site:domain name
Example: malaria site:cdc.gov
sars site:who.int

Date Capability

- Many search engines have the feature to limit searches by web page creation dates.
- Useful if you do continuing research on a specific topic as it enables you to limit the results to pages created since your last search.
- Also useful when searching for current event topics.
- Some search engines like **Yahoo** offer radio buttons or pull-down menus while **AltaVista** and **HotBot** provide the ability to specify dates or timeframes.

Natural Language Search

- There are few search engines that encourage you to type your search terms as a “normal” question or sentence.
- Various sophisticated techniques are working behind the scenes to analyze your search.
- A good example of these search engines is **Hakia**.

Use Different Search Engines

- Do not use one search engine for all your search needs.
- Every search engine returns different results.
- There are many search engines that focus on specific niches, like games, blogs, books, forums, etc.

Reminder

- Always keep in mind that not all search engines and directories support Boolean operators and the other search techniques, however, most do; hence, before using the operators and techniques, consult the **FAQs (Frequently Asked Questions) or Help** pages on a search engine/database or directory's home page to verify if these are allowed in your searches.

THANK YOU

- I HOPE THAT, ONE WAY OR ANOTHER, I HAVE IMPARTED SOME KNOWLEDGE TO HONE YOUR SKILLS IN SEARCHING VARIOUS ELECTRONIC RESOURCES AND DATABASES ON THE INTERNET