ATU How to: Make searching Simpler

Using search operators to simplify database research.

? What is a search Operator?

Search Operators are words and symbols, which change how the search engine handles the word sand phrases you enter.

Search operators are often referred to as Boolean Operators, Wild Cards, Fuzzy Searching, Proximity Operators, Truncation symbols. These names refer to the effect they have when used in a search i.e., whether it expands, limits,or refines the search.

You can use a combination of search operators in the same search.
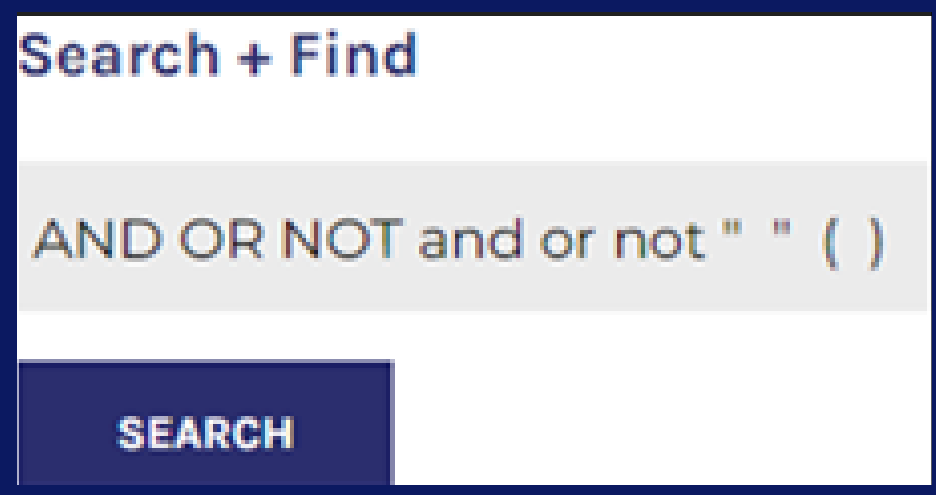
Why use a search operator?

Search operators can make your searches more specific and more refined. Search operators help the search engine of databases target the results to what is more relevant to your research. It reduces the number of irrelevant results and helps reduce information overload.

Boolean operators AND OR NOT (_)"_"

Boolean operators help define relationships between your search terms. These are universal across most databases, so they should work no matter what databases you are using.

They also work when using a search engine like Google Chrome, Microsoft Edge etc.

Some databases require AND, OR, NOT to be in capital letters, others don't. If you are not getting results, just try putting them in small letters.

Search + Find

AND OR NOT and or not " " ( )

SEARCH

AND

- Finds your search words anywhere throughout the same document/report/article etc.
- Use AND to link keywords.
- Use AND when it doesn't matter to you, where your search words appear in a document, and in what order.
- All the results will contain a combination of the words you entered.
- AND narrows the search.

Your search results will contain all the keywords, in any order:
e.g., Marketing AND new product development AND NPD

e.g., patient-centred care and dementia and nurse
e.g., cyber security AND malware AND cloud networks

Or

Any of the keywords will be included in your results.

- When you don't mind if the results contain just one of your search terms, or all your search terms.
- OR broadens the search.

- Use OR to get more results.

e.g., public contract OR government contact

e.g., adolescent or teenager

e.g., college OR university OR third level

NOT

- Words that follow NOT, are excluded from your results.
- Use NOT when you don't want words/terms to appear in your results.
- NOT narrows the search.

e.g., Street art NOT graffiti
e.g., Preschooler not baby not infant
e.g., psychology NOT developmental
e.g., apple not phone

Phrase searching

- This forces the database to carry out exact phrase searches.
- Results will only contain the words enclosed in the " " .
- Use when you want to search for a phrase, and not individual words.
- Also is useful in searches where 'and' normally links two words together e.g., "health and safety."

e.g., "landlord and tenant"
e.g., "consumer culture theory"

e.g., "Atopic Dermatitis"

e.g., "health and safety" Results will contain "health and safety" as a phrase, rather than health, safety, in a random order throughout the document.

Brackets ( )

- Brackets force the database to process the terms in a certain order; the terms inside the brackets are given priority and processed first.
- Brackets, or parentheses tell the database that it cannot just work from left to right - it must perform certain operations first.
- You can put brackets around groups of keywords joined by OR.

e.g., (alcohol or tobacco) and smugglers
Results contain either alcohol or tobacco (processed first) and then, will also contain smugglers

e.g., (mouse OR rat) AND trap

Truncator *(or root expander) (all alternative endings)

- Finds all alternative endings for the word.
- Truncation allows you to search the "root" form of a word with all its different endings by adding a symbol to the end of a word.
- The most common truncation symbol is the asterisk * but databases vary. Symbols can also include bank! bank# bank?

e.g., transplant* = transplant, transplanted, transplantation, transplanting

e.g., bank* = bank, banks, banking, bankers, bankruptcy, bankrupt, etc.

e.g., child* = child, child's, children, children's, childhood

Wildcard/Universal Character?! (Replace single letters)

- Wildcards are useful when multiple spellings of a word can affect your search.
- Use one wildcard symbol for each character you wish to replace.
- The most common wildcard symbol is ne?t, but databases vary. Wildcards can also include ne!t or ne!t.

Sm?th =Smith, Smyth

ne?t = neat, nest, next

Wom!n = women, woman
illustrat** = illustrate, illustrated, but not illustrating.

Combining Boolean operators

While there are only a few operators, they can be combined for increasingly complex research topics:
e.g., rabies and (dogs OR badgers)
e.g., vaccine AND (measles OR "chicken pox")
e.g., medicine AND (seizures OR "seizure disorders" OR "convulsive disorders")
e.g.cloning AND (sheep OR human)
e.g., To find information on the incidence of salmonella food poisoning caused by burgers, with or without eggs:

- salmonella AND burgers AND eggs = food poisoning caused by both
- (burgers OR eggs) AND salmonella = food poisoning caused by either
- (Burgers AND salmonella) NOT eggs = only food poisoning caused by burgers

Search Operators Summary

Connector	Functions	Example
AND/and (Find both terms)	**What:** Finds your search words anywhere throughout the same document/report/article etc. **Why:** use it when it does not matter to you where your words appear in a document, and in what order.	• Nursing and Patient-centred care. • Brand engagement and influencer. • EFID and retail and supermarkets.
Or/or (Find either term)	**What:** Finds either search term or both search terms. **Why:** When you do not mind if the results contain either one of your search terms, or both of your search terms. *Connect two or more similar concepts.	• Narcotics or drugs. • Adolescent or teenager. • Canine or dog. • Car or automobile.
NOT/not (Find just one term)	**What:** Use NOT to exclude words or phrases from your search. **Why:** Use to narrow your search, telling the database to ignore concepts that may be implied by your search terms.	• Mexico NOT city. • Adult NOT elderly. • Elections not presidential.
" " **Phrase searching**	**What:** Results will only contain the entries enclosed in the " ". **Why:** Use to restrict results to a particular phrase. *Also use if the word **and** usually appears in a phrase.	• " Online banking" • "Landlord and tenant" • "Health and safety" • "Peer reviewed"
( ) **Brackets or parentheses**	**What:** Use brackets to `nest` or `group` your search terms and operators. **Why:** Brackets force the database to process the terms in a certain order; the terms inside the brackets are given priority first.	• (Alcohol or tobacco) and smugglers. • Feminism AND (politics OR "public policy" OR government). • (Smoking or tobacco) and cancer.
Truncation/ Root expander	**What:** Truncation allows you to search the "root" from a word with all its different endings. **Why:** Finds any number of characters of the end of a word. *Truncator symbols can also include ! # ? depending on the database	• Music* =Musical, musician, musicians, musicality • Politic* = Politics, political, politically • History? = history, historical, histories, etc.
Wildcard/ Universal character ?	**What:** Use one wildcard symbol for each character you wish to replace. **Why:** Wildcards are useful when multiple spellings of a word can affect your search. *Wild symbols cam also include ! * depending on the database.	• Wom?n = women, woman • Liab? = liable or liability • Liab! = liable or liability • Gr?y = gray, grey