Search Strategies for Database Searching

Search Process

First, identify the key concepts. Then, organize the concepts into columns, and write synonyms and related phrases. Decide which databases are appropriate for the key concepts. Choose search techniques that are available in the chosen databases. Run the search. Review the results and decide if the search strategy needs modification. Modify the search strategy and run the search again.

Example: What is the relationship between accessibility of nutritious food and obesity?

Step 1 - Identify the Key Concepts

accessibility, food, obesity

Step 2 - Organize into Columns and Write Synonyms and Related Phrases

<table>
<thead>
<tr>
<th>access</th>
<th>food</th>
<th>obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>accessible</td>
<td>foodstuffs</td>
<td>obesity</td>
</tr>
<tr>
<td>accessibility</td>
<td>groceries</td>
<td></td>
</tr>
<tr>
<td>grocery</td>
<td>nutritious</td>
<td></td>
</tr>
<tr>
<td>nutritional</td>
<td>nutritionally</td>
<td></td>
</tr>
<tr>
<td>fruit</td>
<td>fruits</td>
<td></td>
</tr>
<tr>
<td>vegetable</td>
<td>vegetables</td>
<td></td>
</tr>
</tbody>
</table>

Step 3 - Choose Appropriate Databases

Medline/PubMed, CINAHL Plus, Family & Society, Academic Search Complete

Step 4 - Apply Search Strategies

**Strategy 1 - Boolean Operators**

AND (narrows the results through inclusion)
for example: anorexia AND athletes

OR (broadens the results)
for example: anorexia OR bulimia OR binge eating

NOT (narrows the results through exclusion)
Some databases use AND NOT (Read the database guide.)
for example: smoking NOT cigars
for example: smoking AND NOT cigars

\[
\begin{align*}
dog owners & \text{ AND cat owners} \\
dog owners & \text{ OR cat owners} \\
dog owners & \text{ NOT cat owners}
\end{align*}
\]

**Strategy 2 - Truncation / Stemming (finds different word endings)**

Common truncation/stemming symbols: * $ ! (Read the database guide.)
Most databases require at least 3 letters before the symbol.

- staple* finds: staple, staples, stapler, Stapleton, etc.
- school$ finds: school, schools, schooler, schooling, Schoolbury, etc.
- disorder! finds: disorder, disorders, disordered, disorderly, etc.

**Strategy 3 - Phrase Searching (exactly these letters and spaces in this order)**

"no child left behind"
"neighborhood watch"
Some databases allow truncation/stemming inside a phrase (Read the database guide.) For example: "suicid* tendenc*"

**Strategy 4 - Limits**

- Academic Journals
- Publication years (for example: 1997-2001)
- English (article is in English)
- Publication type (for example: periodical, book, newspaper, etc.)
- Document type (for example: article, book review, editorial, etc.)

**Strategy 5 - Field Qualification (restrict information to a specific field)**

- Bradbury* in the author field
- "public policy" in the title field
- "journal of mental health" in the source/journal name field
Strategy 6 - International Versions (to include the international literature)

International spellings (for example: centre, programme, behaviour, etc.)
International terms
  for example: lift (Americans use elevator)
  for example: flat (Americans use apartment)

Strategy 7 - Proximity Operators (read the database guide)

The most common proximity operators are Near, Within, and Adjacent. Proximity operators tell the database to find two key words, but to allow only a certain number of other words to come between the two key words. For some databases, the order of the two key words matters. Some databases define the proximity operator as fewer than XX number of words between the two key words. Some databases do not have proximity operators. The database guide will give you the proper format to use.

<table>
<thead>
<tr>
<th>dog* NEAR 6 cat</th>
<th>dog* N6 cat</th>
<th>dog* N/6 cat</th>
</tr>
</thead>
<tbody>
<tr>
<td>dog* WITHIN 6 cat</td>
<td>dog* W6 cat</td>
<td>dog* W/6 cat</td>
</tr>
<tr>
<td>dog* ADJ6 cat</td>
<td>dog* ADJ/6 cat</td>
<td></td>
</tr>
</tbody>
</table>

The above examples would give this result to you:
The dog's attention turned to the cat.

Proximity operators would be helpful if you were searching for Beck's depression inventory because the topic appears in various ways:
  the depression inventory developed by Beck
  Beck's inventory for depression
  the inventory for depression created by Beck
  Beck published a depression inventory

Applying the Search Strategies to our example for Academic Search Complete:

<table>
<thead>
<tr>
<th>access*</th>
<th>food*</th>
<th>obes*</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Apply the limits: 2005 - now, academic journals, English
Step 5 - Run the Search

Use the advanced search mode when it is available.
Type each column into the database as a separate search.
Use OR to type the terms/phrases for a column.
Use AND to combine the set numbers of the columns.

NOTE: Some databases have a limit on the number of terms/phrases that can be searched at one time. Test the search if you are using many terms/phrases.

Use the search history/previous searches tab to combine the search sets.
Follow the database's format for writing the set numbers.
For example: S1 AND S2 AND S3
For example: #1 AND #2 AND #3

Step 6 - Examine the Results (Words to Include/Exclude, Strategy Changes)

Look at the results and decide if the results meet your needs. If not, consider the following ways to modify the search.

If your search produces too many results, consider the following:

Apply more limits or tighten the existing limits.
Field qualify the terms to the Title along with the Subject fields.
If a database thesaurus is available, use the thesaurus search.
Include another concept in the search (AND another column of phrases).
Use NOT to get rid of results that use the terms in a different context.
Use phrase searching instead of word searching (apply the quote marks).
Use proximity operators if available in the database.

If your search produces too few results, consider the following:

Check your spelling. Misspelled words produce fewer results.
Add broader terms (for example: eating disorders to a search on anorexia).
Broaden or remove some of the limits that you applied.
Choose a different database.
If a database thesaurus is available, choose broader or related terms.
Look at the words/subjects used in a good result. Revise the search to include the new words.
Look in a thesaurus for more synonyms and then revise the search.
Run the search with fewer concepts (do not AND one of the columns of phrases).
Use a truncation/stemming symbol.
Use both the American and international spellings and phrases.

There are too many irrelevant results. Use the Field Qualification strategy to modify the search. Restrict access* to the Title Field. Rerun the search.
Step 7 - Revise the Search and Run the Search Again

Template for database searches:

<table>
<thead>
<tr>
<th>Concept 1</th>
<th>Concept 2</th>
<th>Concept 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR</td>
<td>OR</td>
<td>OR</td>
</tr>
<tr>
<td>OR</td>
<td>OR</td>
<td>OR</td>
</tr>
<tr>
<td>OR</td>
<td>OR</td>
<td>OR</td>
</tr>
<tr>
<td>OR</td>
<td>OR</td>
<td>OR</td>
</tr>
</tbody>
</table>

In the search history/previous searches tab, combine the concepts.

Set number for concept 1 AND set number for concept 2 AND set number for concept 3

Selected Databases as a Starting Point

<table>
<thead>
<tr>
<th>Health Orientation:</th>
<th>Social Orientation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cinahl Plus</td>
<td>Academic Search Complete</td>
</tr>
<tr>
<td>Cochrane Library</td>
<td>Annual Reviews</td>
</tr>
<tr>
<td>Global Health</td>
<td>ASSIA: Applied Social Sciences Index &amp; Abstracts</td>
</tr>
<tr>
<td>Health and Wellness Resource Center</td>
<td>Family &amp; Society Studies Worldwide</td>
</tr>
<tr>
<td>Medline/PubMed</td>
<td>IBSS: Int'l Bibliography of the Social Sciences</td>
</tr>
<tr>
<td>Pilots</td>
<td>Social Services Abstracts</td>
</tr>
<tr>
<td>PopLine</td>
<td>Social Work Abstracts</td>
</tr>
<tr>
<td>PsycInfo</td>
<td>SocIndex with full text</td>
</tr>
<tr>
<td>Scopus</td>
<td>Web of Science</td>
</tr>
</tbody>
</table>