The Literature Review Process
What is a Literature Review?

• A clearly **formulated** question

• that uses **systematic and explicit** methods

• to **identify, select and critically appraise** relevant research.

• [www.sebc.bangor.ac.uk](http://www.sebc.bangor.ac.uk)
PURPOSE OF A LITERATURE REVIEW

- **Assess** the contribution of existing literature to the subject under review.

- Allows you to **demonstrate** your ability to identify relevant information and to outline existing knowledge.

- Allows you to **identify** any gap in the research thereby providing a rationale for your own.

- It’s overall purpose is to **provide** a critical evaluation of significant literature published on a topic.
A well defined research question is central to an effective search strategy.
Is your research question?

- Specific -
- Focused -
- Clearly formulated -
- Well defined -
Formulating a Question – Examples

1. Why are social networking sites harmful?

2. How are online users experiencing or addressing privacy issues on such social networking sites as Twitter and Facebook?

3. What is the effect on the environment from global warming?

4. How is glacial melting affecting penguins in Antarctica?
Example 1

Why are social networking sites harmful?

- Doesn’t specify which social networking sites
- What kind of harm the sites are causing.
- Assumes that this “harm” is proven and / or accepted.

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Example 2

How are online users experiencing or addressing privacy issues on such social networking sites as Twitter and Facebook?

- Specifies sites (Twitter and Facebook),
- Type of harm (privacy issues)
- Who the issue is harming (users).

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Example 3

What is the effect on the environment from global warming?

So broad that it couldn’t be adequately answered in a book-length piece, let alone a standard University-level paper.

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How is glacial melting affecting penguins in Antarctica?

• narrows down to a specific cause (glacial melting),

• a specific place (Antarctica)

• a specific group that is affected (penguins).
When in doubt, make a research question as narrow and focused as possible
A strong research question should never leave room for ambiguity or interpretation

Ask questions of the question
Prior to searching any resource, look at your topic and decide:

1. What are the component issues?
2. What are the primary keywords / phrases in my topic?
3. What alternative keywords or synonyms represent each of these key topics?
Decide your keywords

Keywords

Make a list of primary keywords (incl synonyms)
Challenges in literature reviews:

• Knowing where to start, (e.g. wide then narrow, or narrow then wide?)
• Knowing what to include
• Knowing when to stop literature searching
• Knowing how far to venture into the literature of associated domains
You need to be able to judge if all the relevant literature is likely to have been found and how the quality of studies was assessed.
Locating and Finding Studies
(Librarians are really good at this!)
Where do I start?

Phase 1 – Identifying the Research

Phase 2 - Selection
Phase 1- Identify the Research

1. Defined search terms (keywords)

2. Defined search arena (what resources should I search?)

3. Other broad search limits, e.g. language, date etc.
HOW DO YOU IDENTIFY ALL POTENTIAL DATA?

- Search multiple bibliographic databases
- Scan bibliographies of existing reviews and eligible studies
- Scan conference proceedings
- Hand search key journals
- Forward citation search of seminal articles (WoS)
- Contact scholars working in the area
- Search Internet
HOW DO YOU ASSESS LITERATURE?

• **Provenance** - What are the author’s credentials?

• **Publication** – is it reputable?

• Are the **arguments** supported by **evidence**?
  (e.g. primary historical material, case studies, narratives, statistics, recent scientific findings)

• **Objectivity** – is author’s perspective even-handed?

• **Value** - Are the arguments and conclusions convincing?
  Does the work contribute in any significant way to an understanding of the subject?
How to

• Understand how searches work in a database

• Create a broad or narrow search

• Maximise relevant results
DATABASE SEARCHING

Using PubMed as an example
PubMed

- PubMed comprises more than 23 million citations for biomedical literature from MEDLINE, life science journals, and online books.

- Citations may include links to full-text content from PubMed Central and publisher web sites.
CONTROLLED VOCABULARY

To facilitate search retrieval by eliminating (or accounting for) the use of variant terminology for the same concept.
**CONTROLLED VOCABULARY**

**MeSH**

**MeSH (Medical Subject Headings)** is the NLM controlled vocabulary thesaurus used for indexing articles for PubMed.

For example when searching for **German Measles** it recommends you use the term **Rubella**.
These three Boolean operators allow you to combine terms to narrow or broaden your search.
BOOLEAN OPERATORS

AND - **narrow**s (combines)

![Venn diagram](image)
BOOLEAN OPERATORS

NOT- narrows (excludes)
OR - broadens (either /or)
Boolean Logic Summary

- **cats AND dogs**: retrieves items that contain both terms.
- **cats OR dogs**: retrieves items that contain either term.
- **cats NOT dogs**: retrieves items that contain only one term.
What causes some children to be bullies?

What causes some children to be bullies?

- Decide keywords
- Look at synonyms
  - Truncation
  - Combine Terms
Narrow search

✓ AND
✓ Phrase Searching
✓ Limit your search e.g. language, date range, type of publication etc.

Example
• “drug addiction” AND teenager
The Literature Review

Process

Broaden search

✓ Or
✓ Remove some search terms, or use more general terms
✓ Truncate your search term
✓ Think of alternative spellings
✓ Wild card operators

Examples

• “back pain” OR “back ache”
• therap* = therapeutic; therapeutics; therapy; therapies
• ‘behaviour’ or ‘behavior’, organisation or organization, connection or connexion, defence or defense, theatre or theater
• behavio?r = Behaviour or behavior
• Library catalogues

• Library e-resources (books, journals & databases)

• Subject Guides

www.tcd.ie/Library

* Can be accessed off campus
200+ bibliographic, journal and e-book databases

Are listed by name and subject

Identify databases relevant to your subject area
Summary

1. A clearly formulated question

2. Systematic and explicit methods

3. Critical appraisal of relevant research
TO AVOID THIS...
1. Decide on topic

2. Articulate topic clearly

3. Keep track of keywords / synonyms that describe your topic.

4. Choose relevant, authoritative resources

5. Organize your work from the start.

6. Refine your topic when necessary

7. Identify your subject Librarian and ask for help / guidance if necessary

8. Use opportunities to build skills you need by attending relevant library / info courses.
FURTHER SUPPORT:

- Find out who your subject Librarian is
- Duty Librarian service
- Library website.