How to Write a Literature Review

Teaching Council Webinar
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Session Outline

• Part 1: What is a literature review and how do we start?
  – What is it, what are the different types, how do we start?
  – Developing a research question

• Part 2: Sourcing academic literature
  – Databases, search strategies, and time-saving hacks

• Part 3: Critically appraising academic literature

• Part 4: Top tips for writing a literature review
  – Writing tips, making a plan, presenting findings
What is a Literature Review?

- A piece of academic writing – Includes current knowledge on a topic, substantive findings, theories and methodological contributions

- Generally secondary sources, and do not report new or original experimental work (Not to say they don’t contain original information…)
Why do a literature review?

1. Demonstrate your knowledge of a topic

2. Identify what has been done before and any gaps

3. Provide a background to your enquiry and set out a research agenda

4. Locate your project within current debates and viewpoints

5. Support you in reviewing and refining your research topic, question or hypothesis

6. Help you to analyse your findings and discuss them with rigour and scholarship.
Types of Literature Review

**Systematic review**
- Explicit and transparent methods
- Standard set of stages
- Accountable, replicable and updateable

**Scoping Literature Review**
- Similar to a systematic review but contains *ALL* relevant literature on a topic

**Integrated review**
- Critique and synthesizes representative literature on a topic in an integrated way such that new frameworks and perspectives on the topic are generated

**Traditional/Narrative Review**
- Critique and summarise a body of literature about a thesis topic

**Rapid review**
- Streamlined literature review due to urgency or limits on time/resources.

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The Question of the Research Question

• What comes first – the literature review or the research question?

• Irrespective of how your question emerges, you should be interested in finding the answer to it.....BUT

• Some of the most interesting things in life are rare and if they are rare they are hard to study
  – Feasibility? Need to balance practicality with added value

• What if somebody has already answered my question??!
  – or have they...?
Developing a Research Question

Research question should be
➢ Specific
➢ Focused
➢ Clearly formulated
➢ Well defined

Sources of research questions
• Theory
• Previous research
• Practical concerns
• Personal beliefs/interests
• Talking to people

“If you do not ask the right questions, you do not get the right answers.”

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Some Questionable Examples

Is the childhood obesity rate high in Ireland?

How much time do young children spend doing physical activity per day?

What are the effects of childhood obesity in Ireland?
New and Improved Research Questions

Is the childhood obesity rate high in Ireland?  
Less Narrow

How does the education level of parents impact childhood obesity rates in Ireland?

What are the effects of childhood obesity?  
More Focused

How does childhood obesity correlate with academic performance in primary school children?

How much time do young children spend doing physical activity per day?  
More Subjective

What can schools do to increase the amount of time young children spend doing physical activity per day?

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Online Databases

Paid Examples

- Ebsco
- Web of Science
- Jstor
- PubMed

University/Organisational Libraries

Free Examples

- Google Scholar
- Rian
- Lenus

Subject-specific open databases:

- ERIC (education),
- Pubpsych (Psychology),
- Social Science Research Network (Multidisciplinary)
Search Strategies

• **Boolean Operators**
  – ‘and’
  – ‘or’
  – ‘not’

• **Interdisciplinary searches**
  – Don’t limit yourself to just one sector

• **Alerts for authors, keywords, subject areas**

• **Keep it concise, relevant – avoid the rabbithole!**
Start general

• Introductory texts and reviews are your friend;
• Find key players in the field and see what work they have recently completed/have underway
• Use online resources like Wikipedia, but use them carefully!
If Google Scholar isn’t turning up what you need, try an open Google search with the **article title in quotes**, and **type the added filter “filetype:pdf”**.

If that doesn’t work, try using the ‘**cited by**’ feature on Google Scholar.
Literature Review Hacks

Online algorithms

www.storkapp.me

Referencing guides

PurdueOWL

Manage your references

Mendeley

Zotero

Loads more: https://elearningindustry.com/12-best-free-online-bibliography-and-citation-tools
Part 3: Critically Appraising Literature

Once you have found a paper, it's important to assess whether it's actually any good or not:

1. **Title**
   Does the title make sense? Does it imply relevance for your topic area?

2. **Source**
   Is the source well respected? If a journal, is it high impact?

3. **Authors**
   Are the authors well respected? What organisation do they work for? Are they likely to have a definite ideological view?

4. **Anything out of the ordinary**
   Anything suspicious come up in your search, e.g. retractions, cautions, sensational news pieces?

5. **Abstract**
   Is the purpose of the paper clearly stated? Does it appear to have sound methodology? Are the findings within reason? Do the findings appear to have been interpreted correctly?

If your paper gets through these checks, go ahead and give it a read!

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Critically Appraising Literature

1. Title
   Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children.

2. Source
   \[\text{Lancet, 2000}, \text{vol} 355(9130), \text{pp} 637-41.\]

3. Authors

4. Anything strange?

5. Abstract:
   - **BACKGROUND:** We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.
   
   - **METHODS:** 12 children (mean age 6 years [range 3-10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileo-colonoscopy and biopsy sampling, magnetic resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.
   
   - **FINDINGS:** Onset of behavioural symptoms was associated, by the parents, with measles, mumps, and rubella vaccination in eight of the 12 children, with measles infection in one child, and otitis media in another. All 12 children had intestinal abnormalities, ranging from lymphoid nodular hyperplasia to aphthous ulceration. Histology showed patchy chronic inflammation in the colon in 11 children and reactive ileal lymphoid hyperplasia in seven, but no granulomas. Behavioural disorders included autism (nine), disintegrative psychosis (one), and possible postviral or vaccinal encephalitis (two). There were no focal neurological abnormalities and MRI and EEG tests were normal. Abnormal laboratory results were significantly raised urinary methylnalonic acid compared with age-matched controls (p=0.003), low haemoglobin in four children, and a low serum IgA in four children.
   
   - **INTERPRETATION:** We identified associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time with possible environmental triggers.
Part 4. Top Tips for Writing a Literature Review

• **Save papers and references** in the correct format as you go

• **Take notes** summarising each (relevant) paper you read as you go and look for patterns and themes
  – Keep the notes safe!

• **Use your supervisor, mentors, peers, experts, librarians** etc. for sources, feedback, discussion

• **Deconstruct the topic** into its basic elements – these can be usefully covered using sub-headings (also gives natural structure)

• **Critically analyse** the papers you read, but don’t be overly critical!

• **Don’t call it a literature review** – title should be informative

• **Make a plan**
Making a plan

1. Find out what the **key dates** are and write them down!
2. Save **information about the assignment** (word count, how to submit, etc.) where it is easy to find
3. Set some **deadlines** for yourself
   - Finish reading; start writing; first draft
4. Lay out the **key headings** of each section and give yourself a rough word count limit for each one
5. Use a **Gantt chart** to keep you on track:
Presenting Findings

Writing style

– Never use a metaphor, simile, or other figure of speech which you are used to seeing in print.
– Never use a long word where a short one will do.
– If it is possible to cut a word out, always cut it out.
– Never use the passive where you can use the active.
– Never use a foreign phrase, a scientific word, or a jargon word if you can think of an everyday English equivalent.
– Break any of these rules sooner than say anything outright barbarous.
Presenting Findings

Final Touches

• Create a narrative in your literature review

• Leave time for formatting, grammar and proofreading

“It is difficult to overstate how much clear, understandable writing adds to the quality of any article. Clarity of writing is at the same level of importance as accuracy in scientific writing.”

Torraco, 2005
In Summary

WORKING WITH LITERATURE

FIND IT!
- Knowing the literature types
- Using available resources
- Honing your search skills

MANAGE IT!
- Reading efficiently
- Keeping track of references
- Writing relevant annotations

USE IT!
- Choosing your research topic
- Developing your question
- Arguing your rationale
- Informing your study with theory
- Designing method

REVIEW IT!
- Understanding the lit review’s purpose
- Ensuring adequate coverage
- Writing purposefully
- Working on style and tone

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Some Useful Resources

• Cochrane Handbook for Systematic Reviews of Interventions.  
  http://training.cochrane.org/handbook

  (See particularly checklist p.365)  

• Centre for Innovation in Research and Teaching – Writing a Good Research Question  
  https://cirt.gcu.edu/research/developmentresources/tutorials/question

• You’re a researcher without a library card – What do you do? (Blog post on medium.com)  

  http://www.orwell.ru/library/essays/politics/english/e_polit/

• Critical Appraisal Skills Programme – Checklists for critically appraising research  
  http://www.casp-uk.net/casp-tools-checklists

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In your own time, consider the following questions:

What was most useful out of the information just presented?

Was anything new?

How will you use the information to help you write a literature review?

Is there anything that wasn’t covered or you would like to know more about?
Thank You!

If you have any questions, email research@effectiveservices.org