## Exercise 6.1 Thesaurus searching

To explore thesaurus searching, use an appropriate database for your discipline (see Table 6.4 for subject coverage) and find appropriate thesaurus terms for the concepts below. Note that you may want to use more than one term if relevant.

|  |  |  |
| --- | --- | --- |
| **Database** | **Concept** | **Thesaurus Term(s)** |
| ASSIA | Neighbourhood watch |  |
| Lifelong learning |  |
| Foster care |  |
| ERIC | Online learning |  |
| English as a foreign language |  |
| Peer harassment |  |
| LISA | Outreach librarian |  |
| Information retrieval |  |
| Dewey |  |
| MEDLINE | Prozac |  |
| Shingles |  |
| Cost-effectiveness |  |

## Exercise 6.2 Case study of the search process

Table 6.2 details methods of identifying literature for a systematic review looking at ‘Social inequality and infant health in the UK’ (Weightman et al., 2012): 5173 references were retrieved. Consider Table 6.2 and attempt the following questions:

1. How would you rate this search in terms of the number and types of sources searched? Is this adequate?
2. What disadvantages are there in the author’s search approach?
3. What aspects of the search process in the case study might be applied to your own review?

## Exercise 6.3 Examining search strategies

Look at each search strategy in turn, and consider the following:

* How would you rate the search strategy? Have the concepts of the research question (population, intervention/exposure, outcome(s), etc.) been successfully translated into search terms? Are there any other search terms that you might have included?
* What types of searching (thesaurus searching, free-text searching) have been used and are these appropriate?
* Which search tools have been used (Boolean operators, truncation, etc.)? Have these been used successfully?

(Note that the searches were conducted in May 2015, so rerunning the search at a later date may produce a different number of results.)

### Research Question A

Is the location of schools near to electromagnetic fields from electricity pylons liable to have adverse health effects on schoolchildren?

*Suggested Search Strategy for MEDLINE via OvidSP*

1. exp Schools/ (84101)

2. school\*.ti,ab. (202965)

3. 1 or 2 (252115)

4. location\*.ti,ab. (280578)

5. near.ti,ab. (248671)

6. next to.ti,ab. (135447)

7. adjacen\*.ti,ab. (140275)

8. proximity.ti,ab. (37018)

9. 4 or 5 or 6 or 7 or 8 (804037)

10. 3 and 9 (8342)

11. exp Electromagnetic Fields/ (14956)

12. electromagnetic\* field\*.ti,ab. (7175)

13. 11 or 12 (18367)

14. 10 and 13 (18)

### Research Question B

Do ICT interventions improve primary schoolchildren’s performance in solving maths problems?

*Suggested Search Strategy for ERIC via EBSCO*

S1 DE “Elementary Schools”

S2 primary school\*

S3 DE “Children”

S4 child\* or infant\* or junior\*

S5 S1 OR S2 OR S3 OR S4

S6 (DE “Problem Solving”)

S7 DE “Information Technology”

S8 ICT or IT or information technolog\* or (“information and communication\* technolog\*”)

S9 S7 OR S8

S10 DE “Mathematics Achievement” OR DE “Mathematics Skills”

S11 maths or mathematics

S12 S10 or S11

S13 S5 AND S6 AND S9 AND S12

### Research Question C

Is the provision of solar-powered cars likely to result in benefits to society in an industrialised nation?

(Note that this search has focused on environmental and financial benefits.)

*Suggested Search Strategy for Science and Social Sciences Citation Indexes via Web of Science*

*#1 Topic = (solar power\*) AND (car\* OR vehicle\* OR automobile\*)*

*#2 Topic = (environment\* OR pollut\* OR emission\*)*

*#3 Topic = (financ\* OR econom\* OR cost effective\* OR cost benefit\*)*

*#4 Topic = #2 OR #3*

*#5 Topic = #1 AND #4*

### Research Question D

Is early discharge of stroke patients from hospital into the community more effective than standard hospital care?

*Suggested Search Strategy for EMBASE via Ovid*

1. exp stroke patient/ or exp stroke/ (109752)

2. stroke$.ti,ab. (238972)

3. cerebrovascular accident$.ti,ab. (7569)

4. 1 or 2 or 3 (274896)

5. exp hospital discharge/ (70481)

6. early discharge$.ti,ab. (2844)

7. 5 or 6 (72179)

8. 4 and 7 (4588)

9. Meta Analysis/ (92310)

10. ((meta adj analy$) or metaanalys$).tw. (97880)

11. (systematic adj (review$1 or overview$1)).tw. (79847)

12. or/9–11 (179356)

13. cancerlit.ab. (661)

14. cochrane.ab. (43593)

15. embase.ab. (42596)

16. (psychlit or psyclit).ab. (955)

17. (psychinfo or psycinfo).ab. (10333)

18. (cinal or cinahl).ab. (12994)

19. science citation index.ab. (2375)

20. bids.ab. (476)

21. or/13–20 (68987)

22. reference lists.ab. (10967)

23. bibliograph$.ab. (15905)

24. hand-search$.ab. (5107)

25. manual search$.ab. (3063)

26. relevant journals.ab. (907)

27. or/22–26 (32392)

28. data extraction.ab. (13180)

29. selection criteria.ab. (21579)

30. 28 or 29 (33477)

31. review.pt. (2049037)

32. 30 and 31 (16910)

33. letter.pt. (884438)

34. editorial.pt. (475548)

35. animal/ (1652198)

36. human/ (15705953)

37. 35 not (35 and 36) (1245364)

38. or/33–34,37 (2590629)

39. 12 or 21 or 27 or 32 (217204)

40. 39 not 38 (210173)

41. 8 and 40 (88)

Note how this search demonstrates the use of a search filter (Steps 9–40) (Scottish Intercollegiate Guidelines Network, 2014), in this case to limit the search to retrieve systematic reviews only.

Now that you have examined existing search strategies, it is time to turn your attention to your own review. Complete Exercises 6.4, 6.5 and 6.6 to plan your literature search.

## Exercise 6.4 Searching for your own review

Having read through the information on literature searching, it is time to start thinking about the searching for your own review. Work through the following exercises for your own research topic:

Start to plan your literature search

Practise by working through the following questions.

Think …

* about the purpose of your review – how systematic does your search need to be to fulfil the purpose of your review?
* about your focused question – what types of databases may index articles on your topic area? Which terms might describe each concept in your focused question?
* do you know of any key citations or authors in your topic area? (Hint: ideally these papers should have been published between five and ten years ago in order to have accrued sufficient impact.)

Decide on the following …

* database sources to search, including sources of unpublished or grey literature (for assistance with identifying sources, see Tables 6.4 and 6.5);
* additional searching techniques: reference list checking, contact with experts, citation searching;
* brainstorm search terms for each concept within your focused question – think of all the synonyms;
* identify thesaurus terms for your search terms;
* include free-text terms where appropriate;
* combine your search terms using an appropriate operator.

**Insert your response:**

## Exercise 6.5 Pearl-growing and author searching

In the grid provided list three or four key citations you might consider useful ‘pearls’ in your topic area. List authors or institutions that might have conducted research studies in your topic area.

**Insert your response:**

Candidate pearls: Candidate authors or institutions for author searching:

1 1

2 2

3 3

4 4

## Exercise 6.6 Sources to search

Using the search planning worksheet in the Toolbox section of this chapter (reproduced below), list the different sources that would be useful to search for your chosen review topic area. Check your list with a local librarian/information specialist if possible.

**Search planning worksheet**

We have devised a template for you to record what sources you will search to find the literature to answer your research question. Adjust the number of sources you will search accordingly to meet the requirements of your topic and the time and resources available.

|  |  |  |  |
| --- | --- | --- | --- |
| **Databases** | **Grey literature** | **Journals (hand-searching)** | **Experts to contact** |
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