Library Academic Support

Helping you get the best from the Library, its collections, resources and services

Finding Academic Literature

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Nov 2020
Aims

• To get you started with your literature review.
• To introduce you to a range of information resources at UoEdinburgh.
• Getting to know the literature/information landscape for your topic/area.
• To introduce techniques that will enable you to make effective use of the resources available to retrieve and manage information for your research.
• Managing your references
Mewburn, I., Hacking the Literature Review. RMIT University. Accessed online Sep2012 URL: https://docs.google.com/presentation/d/1r_sIg1SFMolh3E26-dg3a5R5xRap91iDkaijNVdx4Ds/edit?pli=1#slide=1
Getting started

Frame your research question
• This will help you clarify what you want to find out and help you achieve.

Identify the principal concepts
• These will form the keywords for your search

Expand your search terms by considering
• Synonyms, related terms, antonyms, homonyms
• Variant terminology: farmers markets (UK) & greenmarkets (US)
• Variant spelling: behaviour(UK), behavior (US); paediatric (UK), padiatric (US)
• Variations in terminology over time
• Abbreviations: Royal Anthropological Institute/RAI
• Variation in word endings

Apply search limits for greater focus and relevance
• e.g. date, language, geography, methodology?
Framing your research question

<table>
<thead>
<tr>
<th>Major subjects</th>
<th>antihypertensives</th>
<th>hypertension</th>
<th>pregnancy or childbirth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative spellings related terms synonyms</td>
<td>anti-hypertensive(s) beta blockers specific drug names</td>
<td>high blood pressure toxemia preeclampsia PIH</td>
<td>Parturition Birth Labour/ labor</td>
</tr>
</tbody>
</table>
Framing your research question

What is the effect on classroom behaviour of young adults diagnosed with ADHD?

- Trial & error may be required!
- Some ‘translation’ may be needed when switching from one database to another
- It’s important to explore all possible terms to address lack of consistency in the assignment of indexing terms.
Most Schools do not ask for their PGT dissertations to be loaded onto ERA. Ask your School administration or your supervisor if there are examples of previous ones you can see. MSc dissertations in ERA may be older (mid 20th century) rather than current.
How useful is mindfulness for students experiencing exam stress?

<table>
<thead>
<tr>
<th>mindfulness</th>
<th>students</th>
<th>exam</th>
<th>stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>mindful(ness)</td>
<td>student(s)</td>
<td>exam(inations)</td>
<td>stress(ed)</td>
</tr>
<tr>
<td>meditat(ion)</td>
<td>pupil(s)</td>
<td>test(s)</td>
<td>anxi(ety)</td>
</tr>
</tbody>
</table>

**essential**

Different populations experiencing exam stress may be comparable. Stress of any kind experienced by students may be useful.

essential
### Combining search terms (keywords)

#### Boolean operators (AND, OR, NOT)

<table>
<thead>
<tr>
<th>Results retrieved from your search ...</th>
<th>Boolean operator</th>
<th>Example</th>
<th>Retrieves</th>
</tr>
</thead>
<tbody>
<tr>
<td>... must include all your terms</td>
<td>Insert <strong>AND</strong> between your keywords to <strong>narrow</strong> your search</td>
<td>children <strong>AND</strong> literacy diet <strong>AND</strong> obesity poverty <strong>AND</strong> health</td>
<td></td>
</tr>
<tr>
<td>... must include at least one of your terms</td>
<td>Insert <strong>OR</strong> between your keywords to <strong>broaden</strong> your search</td>
<td>1960s <strong>OR</strong> sixties <strong>OR</strong> ‘60s paediatric <strong>OR</strong> pediatric language <strong>OR</strong> dialect</td>
<td></td>
</tr>
<tr>
<td>... must not include a specified term</td>
<td>Insert <strong>NOT</strong> before the word that represents what you wish to exclude, to <strong>eliminate</strong> certain results from your search (use with caution!)</td>
<td>jazz <strong>NOT</strong> blues pregnancy <strong>NOT</strong> childbirth insects <strong>NOT</strong> wasps</td>
<td></td>
</tr>
</tbody>
</table>
Reviewing the evidence base for the effects of woodland expansion on biodiversity and ecosystem services in the United Kingdom

Vanessa Burton, Darren Moseley, Calum Brown, Marc J. Metzger, Paul Bellamy

2. Methods

We undertook a systematic review (SR) of both academic literature and unpublished ‘grey’ literature, following established guidelines (Collaboration for Environmental Evidence, 2013).

2.1. Data collection

Online searches were carried out on electronic databases, organisational websites and internet meta-search engines. Search terms were developed around the Population, Intervention, Comparator, Outcome (PICOS) framework (Collaboration for Environmental Evidence, 2013). As ‘ecosystem services’ is a relatively new term, keywords that related to each ES category were included, to capture all relevant research prior to and since the emergence of ES research. A full list of search terms used for all databases and websites can be found in Supplementary Material 1. The academic electronic databases Web of Science and Scopus were searched, and the first 50 Microsoft Word document and PDF hits from Google Scholar and Google were examined for appropriate literature. Several organisational websites were also searched for relevant information. All literature returned by the searches underwent a three-stage filtering process, using pre-defined inclusion and exclusion criteria. All articles were initially filtered by title and then abstract. Following the abstract filter, full texts were assessed and either accepted or rejected from the final review. The SR identified studies conducted in the UK, Scotland, Wales, Northern Ireland and Ireland, as well as the UK as a whole. Duplicates were removed. Some documents (26 in total) could not be accessed due to restrictions, or were book chapters that could not be sourced online or in available libraries, and these were also excluded. The entire filtering process was carried out by one reviewer. However, all progress and decisions made were discussed regularly with co-authors and the entire inclusion/exclusion process was recorded in a spreadsheet for transparency (Supplementary Material 1).

Supplementary data associated with this article can be found, in the online version, at https://doi.org/10.1016/j.foreco.2018.08.003.
**Published example – search strategy**

<table>
<thead>
<tr>
<th>Database</th>
<th>Search Terms</th>
<th>Search Settings</th>
<th>Timespan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web of Science</td>
<td>TS = ((woodland expansion OR &quot;woodland restoration&quot; OR &quot;woodland planting&quot; OR &quot;forest expansion&quot; OR &quot;forest restoration&quot; OR &quot;afforestation&quot; OR &quot;woodland creation&quot;) AND (network OR corridor OR connect* OR buffer OR dispersal OR forag* OR &quot;adjacent habitat*&quot; OR &quot;tree plant*&quot; OR &quot;tree species composition&quot; OR &quot;species composition&quot; OR &quot;stocking densiti*&quot; OR &quot;planting method&quot; OR size OR edge OR design OR &quot;open space&quot; OR glade OR ride OR soil OR management OR &quot;post-planting&quot; OR treat* OR weed* OR prun* OR thin* OR coppic* OR structur* OR spacing OR fell* OR &quot;dead wood&quot; OR (wet* OR water)) AND (change* OR effect* OR impact* OR benefit* OR establish* OR succes* OR fail* OR increas* OR declin* OR neutral OR &quot;no effect&quot; OR function* OR service* OR synerg* OR &quot;trade-off&quot; OR provisioning OR supporting OR regulating OR cultural OR scale OR time) AND (biodivers* OR species OR population* OR communit* OR ecosystem OR habitat* OR site* OR stand OR region* OR landscape* OR &quot;ecosystem function&quot; OR &quot;ecosystem service&quot; OR vegetation OR soil* OR nutrient* OR climate OR &quot;carbon sequestration&quot; OR &quot;carbon storage&quot; OR flood* OR &quot;water quality&quot; OR timber OR farm* OR agricultur* OR agro* OR crop* OR peat* OR recreation* OR aesthetic* OR health OR hunt* OR shoot*) AND (&quot;open habitat*&quot; OR habitat* OR bog OR heath* OR grassland OR grass* OR forest* OR wood*))</td>
<td>Refined to: Web of Science Core Collection and BIOSIS Collection.</td>
<td>All years (1864-2016)</td>
</tr>
</tbody>
</table>
Some more ways to improve your search

**Truncation**: allows you to search for variations
- climat* for climate, climatic
- optic* for *optic, optics* or optical
- behavio* for behaviours, behavior

**Phrase**: rather than words - helps retrieve more relevant results
- “soil organic matter”
- “North Sea”
Question: Review the evidence base for the effects of woodland expansion on biodiversity and ecosystem services in the United Kingdom

Keywords: woodland expansion, afforestation, biodiversity, species population, ecosystem landscape "ecosystem function" "ecosystem service"

Search:
(ecosystem OR biodiversity OR habitat* OR ...)
AND
("woodland expansion" OR "woodland restoration" OR "woodland planting" OR ...)

These techniques help but at the start, keep it simple.

Searching the literature – some tips …

• **Get organised** – with mind maps, tables or lists … whatever works for you

• **Advanced search** - as it facilitates Boolean searching and other refining options.

• **Phrase searching** – e.g. “woodland expansion” can be useful.

• **Field searching** – you can specify the one to search in, e.g. abstract, title, author.

• **Use truncation** – variously ?, *, $, # - after the root of a word, to capture plurals and other compounds, e.g. child$ - child, children, childhood, child’s

• **Use wildcards** e.g. * for unknown characters or variable spelling – encyclop*edia, wom*n

• **Proximity searching** for words near or next to each other, e.g. ‘education’ NEAR ‘schools’

• **Set limits** – e.g. date or language of publication.
... and a few more!

- **Nesting** - to separate single/group concepts: (concept 1 OR concept 2) AND (concept 3 OR concept 4)

- **Snowballing** – follow up references & citations and see where they lead you.

- **Help** – there’s plenty of it available in all search tools.

- **Too many results?**
  - Add additional keywords with ‘**AND**’ for greater focus
  - Use more specific keywords or thesaurus terms
  - Apply some limits

- **Too few results?**
  - Combine with ‘**OR**’
  - Check your spelling – typos really can mess things up
  - Use truncation, synonyms or alternative spelling
  - Check thesaurus terms
Exercise

1. Your research question.
   • Identify the concepts.
   • Set the scope.

Possible sources?
Sources of Information

The web
- Google
- Google Scholar
- Relevant websites

The library
- DiscoverEd – books, book chapters, journal articles, theses
- Databases
- other sources

A recommended article can be a good start

Use the search terms you’ve planned and be methodical
### Published example – search strategies

<table>
<thead>
<tr>
<th></th>
<th>Google Scholar</th>
<th>Forest Commission (publications) - no specific search available for FR</th>
<th>Scottish Natural Heritage</th>
<th>The Woodland Trust</th>
<th>RSPB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With the exact phrase: &quot;woodland expansion&quot; afforestation.</td>
<td>3 separate searches: woodland expansion, biodiversity (returned 2) and</td>
<td>woodland expansion</td>
<td>woodland creation</td>
<td>Manual search through document library section</td>
</tr>
<tr>
<td></td>
<td>With any of the words: biodiversity species population community habitat ecosystem landscape &quot;ecosystem function&quot; &quot;ecosystem service&quot;</td>
<td>woodland expansion, ecosystem services (returned 0) and just woodland expansion (returned 8)</td>
<td></td>
<td></td>
<td>Topic: forestry, all years, anywhere.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Advanced search. All of the words.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Any time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Any time</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Google Scholar
A good place to start but not always a good place to stop

Can search across many disciplines and sources: articles, theses, books, abstracts, from academic publishers, professional societies, online repositories, universities and other web sites

Google Scholar may not provide access to full-text, however, by linking to the Library you can access full-text where there is a University subscription.
1. Selecting **Settings** from the top of the Google Scholar Home Page
2. Selecting **Library Links**
3. Search for **University of Edinburgh**. Select it from the list and **Save** your settings
You will now see **FindIt@Edinburgh** links next to items in your Google Scholar results that you can use to access the full-text.
Exercise

1. Your research question.

2. Google Scholar. Modify preferences to show ‘findit@edinburgh’ and ‘import into’

3. Try your search terms in Google Scholar
DiscoverEd
http://discovered.ed.ac.uk

• Search the Library’s collections – books, e-books, subscription content & journals.

• Sign in to access all online content, manage your searches, loans and requests.
Using DiscoverEd

Explore!

Sign in here!

refine your search

For more complex searching

Various search results management options
Exercise

1. What search terms are relevant to your research?
2. Google Scholar. Modify preferences to show ‘findit@edinburgh’ and ‘import into’
3. Try your search terms in Google Scholar
4. Try your search terms in DiscoverEd
Bibliographic databases

• Can find articles and full-text not found via DiscoverEd or Google Scholar

• Search details of millions of articles to find what publications exist about a topic - even if not held in our library

• Can be subject specific – although you may need to use more than one

• Can use sophisticated searches
Subject Specific Bibliographic Databases

- Subject database lists, or A-Z
- Web of Science Core Collection (Science Citation Index, Conference Proceedings)
- Scopus
- Agricola (agriculture)
- Biosis (biology, environmental)
- GeoScience World (mineralogy journals not elsewhere)
- Scifinder (chemistry)
- Sociological abstracts

Subject Guides will provide more [https://edinburgh-uk.libguides.com/](https://edinburgh-uk.libguides.com/)
Engineering parallel symbolic programs in GPH

Abstract

We investigate the claim that functional languages offer low-cost parallelism in the context of symbolic programs on modest parallel architectures. In our investigation we present the first comparative study of the execution of large applications in a parallel functional language, in our case in Glasgow Parallel Haskell (GPh). The applications cover a range of application areas, use several parallel programming paradigms, and are executed on two very different parallel architectures. On the applications level the most significant result is that we are able to achieve modest wall-clock speedups (between factors of 2 and 10) over the optimised sequential versions for all but one of the programs. Speedups are obtained even for programs that were not written with the intention of being parallelised. These gains are achieved with a relatively small programmer effort. One reason for the relatively large degree of parallelisation is the use of evaluation strategies, a new parallel programming technique that separates the algorithm from the co-ordination of parallel behaviour. On the language level we show that the combination of lazy and parallel evaluation is useful for achieving a high level of abstraction. In particular we can describe top-level parallelism, and also preserve module abstraction by describing parallelism over the data structures provided at the module interface (data-oriented parallelism). Furthermore, we find that the determinism of the language is helpful, as is the largely implicit nature of parallelism in GPh.

Indexed Keywords

- Engineering controlled terms
- Algorithms
- Computer programming languages
- Data structures
- Programming theory
- User interfaces
- Engineering uncontrolled terms
- Functional languages
- Glasgow parallel Haskell
- Symbolic programs
- Engineering main heading
- Parallel processing systems
Search History

Let’s you:
• Think one concept at a time.
• See the difference (in result numbers) combining makes.
• Know the limiting concept(s) (lowest result number).
• Add another concept easily.
• Know the combination is working the way you want.
Search strategy – subject headings

Database creators often use controlled vocabulary to enrich article description.

- Vocabulary used often matches a discipline’s way of talking about its subject.
- Database thesauri are where you find what subject terms exist.
Dissertations and Theses

**Theses databases**: find theses on your subject worldwide

**Edinburgh Research Archive (ERA)**: University of Edinburgh theses full-text online

**Edinburgh Theses**: find University of Edinburgh theses from any year

**British Library EThOS**: UK's national thesis service

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Keeping up to date

Email alerts of relevant results from bibliographic databases

Saved searches to re-run on bibliographic databases

Table of Contents alerts from journal publisher sites and ZETOC

JCR (on Web of Knowledge) for highest impact factor journals

Copyright
Get permission before you use something in work which will be published or made publically available.
Some basic information at www.ed.ac.uk/is/copyright
Managing your own copyright at: www.ed.ac.uk/information-services/research-support/publish-research/scholarly-communications/copyright
Exercise

1. What search terms are relevant to your research?
2. Google Scholar. Modify preferences to show ‘findit@edinburgh’ and ‘import into’
3. Try your search terms in Google Scholar
4. Try your search terms in DiscoverEd
5. Try your search terms in a Web of Science
6. Create an alert for a search (or journal)
More Resources …

News & media
Search multiple newspaper sources include local UK and international: Factiva, Nexis
http://edinburgh-uk.libguides.com/newspapers-magazines

Business Data
Wide range of company, financial and market data.
http://edinburgh-uk.libguides.com/business

Economic and social data
https://www.ed.ac.uk/information-services/research-support/research-data-service/during/discover-and-re-use-data

Geospatial http://digimap.edina.ac.uk/

If you can’t find something you need, please get in-touch.
SAGE Research Methods
methods.sagepub.com.ezproxy.is.ed.ac.uk

I want to...

- Read classic and cutting edge books
  - Books
- Watch methods come alive
  - Video
- Find quick answers and definitions
  - Reference
- Learn about quantitative methods
  - Little Green Books
- Learn about qualitative methods
  - Little Blue Books
- Learn from stories of real research
  - Cases
- Practice data analysis
  - Datasets
- Design a research project
  - Project Planner
What if we don’t have what you need?

Document Delivery (Inter-Library Loans) [www.ed.ac.uk/is/ILL](www.ed.ac.uk/is/ILL)
You can request books, book chapters or journal articles not held in UoE Library.

**Request a Book** [www.ed.ac.uk/is/rab](www.ed.ac.uk/is/rab)
Suggest new purchases for the Library.

Journal subscription
Contact your Academic Support Librarian – via EdHelp or directly.
Managing your references

Reference management software can save you time

• Use it to construct and manage a database of references
• Automatically build bibliographies in Word

Endnote, Mendeley, Zotero (all free)

http://www.docs.is.ed.ac.uk/mvm/BiblioManagersTable.pdf

https://edinburgh-uk.libguides.com/referencing
• Research data management (RDM) planning
• Working with research data
• Sharing & preserving research data
• RDM training

• RDM help & support: data-support@ed.ac.uk
Help is always available

IS Helpline
www.ed.ac.uk/is/helpline

Academic Support Librarians
www.ed.ac.uk/is/asl
Thank you