A Literature Search is a logical and systematic search for data and information related to a particular topic or field of study. By following this workbook you will gain an insight into the steps needed to complete the full literature search cycle shown above.

You will learn how to extract keywords for your essay titles or topic, create a search strategy grid and after conducting the search stage compile your references and bibliography based upon your search results.
1 Understand the question

Your lecturer will provide you with an essay title or topic area, or you may have a specific question to ask or a subject to explore. Be sure that you understand the question for your assignment – ask your tutor if you are unsure.

2 Organise your thoughts

Begin by identifying the keywords and search terms from your essay question or assignment topic. Use books or articles and other reference sources in the subject area to refine and increase your keywords. Identify key areas or phrases.

Produce a Mind Map or Search Grid to help you to get an overview of the subject area. As you think around your topic and build up the main areas you will see the terms organise themselves into separate sections or ‘Grids’. Each column contains terms associated with a part of the question.

Example Question - How may complementary therapies be used to combat pain?

Mind Map
**Search Grid**

<table>
<thead>
<tr>
<th>KEYWORD 01</th>
<th>AND</th>
<th>KEYWORD 02</th>
<th>AND</th>
<th>KEYWORD 03</th>
<th>AND</th>
<th>KEYWORD 04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complementary therapies</td>
<td></td>
<td>Pain</td>
<td></td>
<td>People</td>
<td></td>
<td>Context</td>
</tr>
<tr>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acupuncture</td>
<td></td>
<td>Back pain</td>
<td></td>
<td>Women</td>
<td></td>
<td>Community</td>
</tr>
<tr>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Massage</td>
<td></td>
<td>Labour pain</td>
<td></td>
<td>Pregnant</td>
<td></td>
<td>Hospice</td>
</tr>
<tr>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homeopathy</td>
<td></td>
<td>Headache</td>
<td></td>
<td>Elderly</td>
<td></td>
<td>Hospital</td>
</tr>
<tr>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypnotism</td>
<td></td>
<td>Migraine</td>
<td></td>
<td>Men</td>
<td></td>
<td>Home</td>
</tr>
<tr>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qi Gong</td>
<td></td>
<td>Chronic or acute pain</td>
<td></td>
<td>Children</td>
<td></td>
<td>Other?</td>
</tr>
</tbody>
</table>

This is a broad subject but already you can see ideas emerging on how you could focus your study on particular areas.

**3 Identify research perspective**

For any question it may be possible to consider it from many perspectives. For example, you could choose to look at this case study from the scientific perspective, the medical/health perspective, the philosophical/ethical/moral perspective or from that of media coverage.

For example, to consider the issues relating to complementary therapies you might be looking for:

- ideas and opinions - expert opinion, opinions of pressure groups, public opinion, opinion of governments and other organisations
- research results - medical experiments, scientific information, clinical trials
- history - when, where and how complementary therapies have been used
Considering your perspectives will enable you to choose from the many books and electronic resources that are available to you. Consider the following perspectives:

- **News & Opinion Perspective** - Do you want to look at public opinion and newspaper reports?
- **Business and Marketing Perspective** - Do you want to find out how different products and therapies are promoted and marketed?
- **Scientific Perspective** - Do you want to know the theory behind how the therapies work? Are they grounded in fact?
- **Social Science Perspective** - Do you want to know why people choose alternatives to established medicine?
- **Medical/Nursing Perspective** - Do you want to know what clinical trials have been made to prove that alternative therapies can relieve pain?

Considering both your search words and your perspectives will help you choose the relevant electronic resources for your subject area.

4 **Identify suitable databases**

You are probably familiar with Google and possibly Google Scholar, however, the electronic resources that the library provides are specifically designed to give you access to academic source material. We have a comprehensive list of them all on the ‘databases a-z’ page which can be found via the Library Home page and following the links for ‘Databases’ and selecting the option ‘All Databases’ at the bottom of the page. You will need to provide login details to view these resources.

However, in order to find the most suitable database for your subject and perspective, look at the appropriate library subject guides (LibGuides) to find the recommended electronic resources for your subject area. You may also want to use some of the general full text databases.

To search all University’s databases use Discover which is located on the Library homepage.

There are two main types of electronic resource that you will find:

**Full Text**
Links through to the complete full text of the article usually in PDF or HTML form.

**Indexing / Bibliographic / Abstract**
Provides a reference and sometimes a summary of the article (but not the complete full text of the article).

**Further information**
Each database has a different interface, so use their Help feature to get the best from each. Also look out for library sessions from Liaison Librarians on how to search particular databases. Check your subject LibGuide pages for the recommended resources.
5 Conduct a search

Put your keywords and search terms into Discover or an appropriate library database and see what results you get.

6 Review and refine your search

Evaluate your results:

Is there enough information? Or too much?
Have your results brought up any additional search terms?
How recent are the results? Usually you will want to read the most recent publications.
How relevant are the results? Is the author a well respected academic in their field?

Usually you will find that you have too many results that are not really relevant. In this case you will want to refine your search to get more suitable articles. You can achieve this by either redefining your search terms or by using the ‘Limiters’ on the Discover or database results page. Please ask your Liaison Librarian for more information on this subject.

7 Limit and combine keywords

**Synonyms and Truncation**
Think of alternative or similar terms (synonyms) and put an OR between them
passive smoking OR tobacco OR cigarettes

Truncation/Plurals *
Use a * to find words starting with a common stem. The * is a truncation symbol replacing one or more letters

cigarette* will find cigarette and cigarettes

Child* will find child, children, childhood, childlike etc...

Truncation can also be used for words with alternative spellings (usually American/English versions of the same word.
English or American e.g. Organisation / Organization – try using Organi*ation to search for both versions.

Combining and Limiting

Think about combining or limiting your keywords or search terms using “and” / “not” / “or”

(Refer to the Help guide in the database you are searching to see how it uses these terms)

**AND, OR, NOT** are called Boolean operators

Boolean operators combine or exclude search terms.
**AND** will find all search terms

**OR** will find one or another term

**NOT** will exclude terms

Remember: if you combine the operators **AND** and **OR** in a search phrase you must enclose the **OR** terms in brackets

erosion **AND** (rain **OR** precipitation)

Boolean logic is used to combine the searches. In this case we are looking for references to journal articles that contain the term pain as well as (AND) the term complementary therapies. These articles are represented by the central section. If we used the term **OR**, we would broaden our search and get references that contain either of these terms.

**SAME** – another Boolean operator

References that contain terms in the same sentence are likely to be more relevant than those that contain the terms in different parts of the reference. If your search returns too many hits, try replacing **AND** with **SAME**

Asthma **SAME** smoking will find both terms in the same sentence.

**PHRASES** – if you are looking for a phrase, put it in quotation marks e.g. “stem cell”

All of the steps above are "iterative". You will repeat steps as you work your way through. For instance a search on a database will reveal new search terms and lines of exploration to build into the Mind Map or Search Grid you created at the beginning of the process.
8 Access the full text

In many cases you will be able to get direct access to the full text of your article. However, if you only have the abstract, try the following:

- Use the button to see if you can get it full text via another library resource
- Check the library’s e-journals to see if we have that title and year
- Check the library catalogue to see if we have that journal in print
- Search using Google Scholar for the title of the article

If you use Google Scholar with your title you will often get:

- The latest version of the article as an uncorrected proof, this may include what you need
- After 12 months, you will often get full text access on the homepage of the journal

If you still cannot find the information, you can request a copy of the article through the Article Reach and Inter Library Loan service. Please check with your Liaison Librarian for more information regarding these services.

9 Keep records

Keep records and notes of your search - use a learning log or pen drive (always keep a backup). You can also save the search history in your chosen database - most have this option but in some cases you may have to register your email address with the database.

10 Write up your research

Take your time when writing up your research, remember that if you quote or adapt an idea from someone else’s work then you need to CITE the source. In order to avoid plagiarism you need to acknowledge when you use someone else’s research, words or ideas.

11 Produce your references and bibliography

Your references are a list of sources you’ve cited in your work. Your bibliography is a list of resources you have consulted but not cited.

Build up your bibliography/list of references systematically as you go along - there is nothing more frustrating than trying to find a lost reference for an article you want to use. Use a reference manager software package such as EndNote or RefWorks (your Liaison Librarian will run training sessions in the use of this software). These packages will save your references for you and allow you to export it as whatever referencing system is recommended by your tutor.

12 Submit your work

If you need any additional support contact your Liaison Librarian: jacqueline.mooney@liv.ac.uk