Guide to Information Retrieval

Information literacy is a basic academic competence and the sooner you learn how to search for information effectively, the better your studies will progress. Information retrieval is a process which can be separated into phases, as shown in the picture below. All phases are not necessary every time you search for information and the phases often overlap. This guide presents the information retrieval process and the available information resources at the Åbo Akademi University Library. Some of the databases are only available in the university’s computer network.

Define the problem

First, consider carefully what kind of information you need. You use different search strategies depending on the purpose of your information search. If you want a quick answer to a simple question it is often enough to do a quick search on the Internet. But if you need information for an essay or a master’s thesis you will probably have to use several search strategies and information resources.
Start by defining the problem:

1. What do you want to find out?
2. What is the purpose?
3. Which aspects of the subject are interesting?
4. What do you already know about the subject?
5. What kind of information is needed?
6. Which languages should the information be in?
7. How recent should the information be?

Make a mind map to get an overview of your problem. Identify terms and concepts that best describe your subject. Reflect on synonyms, alternative spellings, translations and abbreviations. Use dictionaries, dictionaries of synonyms, encyclopaedias and manuals. Collect essential keywords from relevant books and articles and write them down on your mind map. When you begin the information retrieval, you should have selected two or three vital terms as keywords.

Create search queries

The library collections consist of printed and digital material. You gain access to the material by searching in databases, which - depending on the contents - can be separated into the following categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Reference</td>
<td>Includes references to books, articles, journals etc. Library catalogues are reference databases, that will also show you if the material is available.</td>
</tr>
<tr>
<td>Full text</td>
<td>Includes full texts (articles, books...) which can be read or printed immediately. Many databases in the Nelli Portal are full text databases.</td>
</tr>
<tr>
<td>Factual</td>
<td>Includes facts that can be used straight away, e.g. statistics or legal information.</td>
</tr>
<tr>
<td>Citation</td>
<td>Includes information on where an author or article has been cited.</td>
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</table>
The databases may look different but are based on the same principles. The queries are executed in search fields, meaning that you can search by title, author, subject, free text or combinations of these. In most databases it is possible to limit the search results by year of publication, language or type of information.

In the databases, the contents of the publications are described with subject terms. These terms are chosen from special information retrieval thesauri. **Compare the keywords on your mind map with the subject terms in the thesauri.** If you search using the same subject terms as the ones used in the database, your chances of finding relevant material is far greater. A thesaurus will also provide examples of related, broader and narrower terms, which can be helpful when choosing keywords. Libraries in Finland usually use the thesauri YSA (General Finnish Subject Heading Thesaurus) and ALLÅRS (General Swedish Subject Heading Thesaurus) in their library catalogues.

When you have picked your keywords you can combine them in different ways to get relevant and manageable search results. The most important search tactics are **searching with phrases, truncation and Boolean logic:**

- **Search with a phrase**
  - When you want the keywords to be in a certain order in the search results.
  - Quotation marks are used in most databases, e.g. "world wide web".

- **Truncation**
  - Use only the beginning or part of a word to find different spellings and forms of a word. Entrepr? finds entrepreneur, entrepreneurship etc.
  - The most common truncation marks are *, ?, $ and #. Sometimes the database truncates the search automatically. Check the instructions in the database!

- **Boolean logic**
  - Combine the keywords with **AND, OR or NOT** to get narrower or broader search results.
  - **Finland AND history** – will retrieve information about the history of Finland.
  - **Finland OR history** – will retrieve information about either Finland, the history of Finland or just history.
  - **Finland NOT history** – will retrieve information about Finland, excluding the history of the country.
**Search in different information resources**

When you have formulated your search queries, it is time to consider what type of information you need. The table comprises the most important information resources according to the type of information. See the following pages for a more thorough presentation of the library's information resources.

<table>
<thead>
<tr>
<th>When you need:</th>
<th>Search in:</th>
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<tbody>
<tr>
<td><strong>Books</strong></td>
<td><strong>Alma</strong> (for books at Åbo Akademi University Library)</td>
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<tr>
<td></td>
<td><strong>Melinda</strong> (university libraries in Finland)</td>
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<td></td>
<td><strong>Nelli</strong> &gt; MetaSearch &gt; Library catalogues</td>
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<td></td>
<td><strong>Nelli</strong> &gt; Find Database &gt; E-books</td>
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<tr>
<td><strong>Articles</strong></td>
<td><strong>Nelli</strong> &gt; QuickSearch &gt; Search Articles</td>
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<td></td>
<td><strong>Arto</strong> (references to articles published in Finland)</td>
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<td></td>
<td><strong>Google Scholar</strong></td>
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<tr>
<td><strong>A certain journal</strong></td>
<td><strong>Alma</strong> and other library catalogues</td>
</tr>
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<td></td>
<td><strong>Nelli</strong> &gt; Find e-Journal</td>
</tr>
<tr>
<td><strong>Look up or translate a word</strong></td>
<td><strong>Nelli</strong> &gt; Find Database &gt; Dictionaries</td>
</tr>
<tr>
<td></td>
<td>The reference section in the library</td>
</tr>
<tr>
<td><strong>A quick overview of a subject</strong></td>
<td><strong>Nelli</strong> &gt; QuickSearch and/or Find Database</td>
</tr>
<tr>
<td></td>
<td><strong>Google Scholar</strong></td>
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<tr>
<td><strong>A thorough overview of a subject</strong></td>
<td><strong>Nelli</strong> &gt; MetaSearch, choose subject under Category</td>
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<tr>
<td></td>
<td><strong>Nelli</strong> &gt; MetaSearch &gt; Library catalogues</td>
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**Library catalogues**

The library catalogue of Åbo Akademi University Library is called **Alma**. Alma mainly includes literature published after 1980. Material printed 1850-1979 is being continuously catalogued, but a lot of this material is still searchable only in the old card catalogues.

A large part of the library’s collections are in closed stacks, which means you will first have to request the material in Alma before you can borrow it. **Only the ASA Library and the Arts and Humanities Library have open shelves with direct access to books.** You can find more information on when and where to pick up your loans on the library’s webpage under **Borrowing**. In the **Help Contents** in Alma you will find instructions on how to search, reserve and request material.

If you do not find what you need in Alma, feel free to use any other research or public library in Finland. The most important library catalogues are:
Local library catalogues in Turku
- **Volter** – Turku University
- **Aura** – Turku Polytechnic
- **Tria** – Novia University of Applied Sciences in Turku
- **Vaski** – Turku City Library

Local library catalogues in Vaasa
- **Tria** – Tritonia, library for the universities and universities of applied sciences in Vaasa
- **Vaasa City Library**

Union catalogues
- **Melinda** – Union catalogue for Finnish university libraries
- **Frank** – Simultaneous search in library catalogues in Finland
- **Libris** – Union catalogue for libraries in Sweden
- **Nelli** – Library catalogues are found via MetaSearch

If you find a book or a journal at a library in another city it may be possible to borrow it as an interlibrary loan. Under [Interlibrary Loans](#) you will find more information about costs and loan conditions.

Journal databases and the Nelli Portal

The very latest research findings tend to be published in journals and periodicals. In journal reference databases you will find information about articles published in scientific journals and collections of articles. The references contain bibliographic information about the article, as well as subject terms describing the contents of the article. If you want to read a specific article, you must first locate the source, i.e. the journal in which it is printed. **Search the library catalogues using the name of the journal or the ISSN-number.**

Journals in digital form are becoming increasingly common. Such scientific journals are easily accessible in full text databases, where relevant articles can be immediately read or printed. The library pays for user rights to a wide selection of such databases. With an Åbo Akademi University username and password you can access these resources also at home.

You'll find the journal databases via the [Nelli Portal](#) (National Electronic Library Interface), which is a **national library interface providing access to all the digital resources of a library.** In Nelli you can search in several databases, library catalogues and dictionaries simultaneously. Here you will also find e-books. Read the instructions on the library's webpage and study the e-guide in the Nelli Portal before you start using Nelli.
How to find a scientific article – step by step

This flowchart shows how to find a specific scientific article, step by step. Similar steps apply when searching for a book.

When you have found a reference to a scientific article:

- Go to the Nelli Portal > Find e-Journal. Search the title of the journal. Log in with your ÅA username if you are outside the ÅA network, e.g. at home.

Go to the databases and find the issue/volume/year of the journal containing the article.

Is the article available in full text?

- Yes: Read, save, print!
- No: Continue searching.
Search the title of the article:

Is the article available in full text? Yes, Read, save, print!
No

Look for the journal (by title) in Alma:

Is the journal available in print? Yes, Request the issue featuring the article and read it!
No
Look for the journal (by title) in Melinda:

Is the journal available at a library nearby?

Yes

Go there and request the issue featuring the article!

No

Request the article as an interlibrary loan!*

* Usually for a fee.
Evaluate and use the information

When you are finished searching information, it is time to choose which sources to use. Remember to look at the reference lists of the articles/books you have already found for more ideas! Consider the following when you evaluate your sources:

- **Relevance**: Does the information answer your questions?
- **Origin**: Who has produced and published the material?
- **Reliability**: Is the information compatible with other sources?
- **Objectivity**: What is the author’s aim? Does the author want to persuade you? How? Have facts been changed or neglected? If so, why? Are there commercial interests behind the material?
- **Currency**: When was the information published? When was the information last updated?
- **Coverage**: What topics are covered and how thoroughly? What is missing?

If you use material from different web sites it is especially important to evaluate the information critically. When writing a scientific essay or thesis it is important to follow the ethical principles of the research community. Most importantly, respect copyrighted material and avoid dishonesty.

Authors have exclusive rights to their own original work, meaning that you cannot copy, distribute or adapt it without the author’s consent. A wide range of creative works, from music, films, photos, maps, computer programs and literature to scientific works are copyright protected up to approx. 70 years after publication or the author’s death. You can read more about copyright issues on Kopiosto’s web site.

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