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Subject
Working method and terminology 1

I. Initiation to Documentary research
II. Drafting (Writing) a scientific report
III. Introduction to reading and understanding a scientific article (paper)

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Chapter I
Initiation to bibliographic research

Research is a **process** aimed at discovering **new knowledge;** developing it knowledge, its development and its generalisation in order to communicate it to a wide scientific community in particular. Its aim is to extend human knowledge of the physical, biological or social world beyond what is already known. To achieve this, it uses a scientific method.

Research is a **long-term construction**, like **a building** in which several architects participate.

That's why it's a good idea, before adding your own stone to the **edifice**, we need to look at what has already been achieved so far.

Researchers must not only "**do science**" but also "write their science".

Charles Darwin said that "**the life of the naturalist** would be very happy if he could only **observe** and **not write**".

It's important to realise that research at university is not just about **handling equipment and observing**, but that you spend more than **half your time in front of a piece of paper**, **reading what others have written on the subject**, or **writing your own articles**.

Definition

- Documentary Research is the use of outside sources to support the viewpoint or argument of an academic.
- This is the set of steps involved in searching for and identifying documents relating to a subject by developing a search strategy.

Why is it important to develop a search strategy?

In a context of information overload (infobesity) and diversity of media, the processes of documentary research and information validation require the application of an effective methodology.

One or more methods for documentary research?

There are different methods for defining a good documentary research strategy. However, they are always based on a few key principles, which we will discuss in turn.

Objectives of the methodology:

The aim of a good research methodology is to facilitate the production of academic work that combines documentary richness and scientific rigour.

It is structured around 5 successive stages:

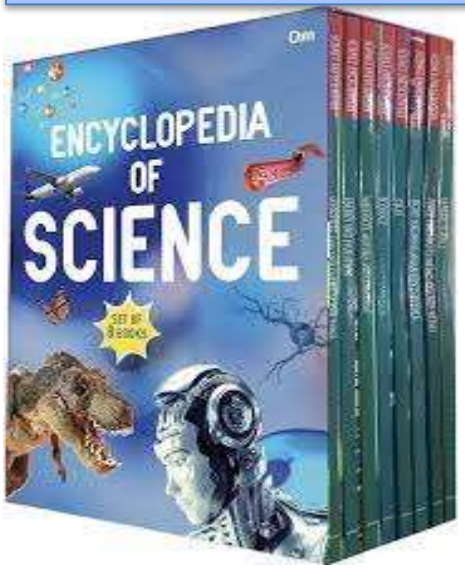
- Preparing your research
- Selecting sources of information
- Searching for and locating documents
- Assessing the quality and relevance of sources
- Setting up a document watch

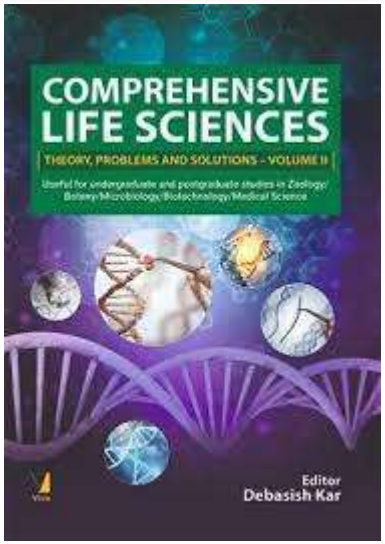
The preliminary questions to ask oneself:

What is the nature of the work to be produced?
presentation, dissertation, article, study report, etc.

What is the expected level of information?

Basic information: one or two books and an encyclopaedia will suffice more specialized or more developed information: go to articles in periodicals, conferences, reports, theses, standards...






THÈSE

LES MATERIAUX DE RESTAURATION CORONAIRE TEMPORAIRES. LE POINT SUR LES CRITERES DE CHOIX ET LES PRATIQUES

What is the nature of the information sought?

Developments on a subject, statistical data, press review, etc

How up-to-date is the information sought?

From archival documents to the latest known results of the research

1- Preparing your research

Principle : Going from the general to the particular

- It is a matter of questioning the subject in all its dimensions, formulating it in a short sentence, selecting important concepts and looking for synonyms.

- This step allows you to set the issue, identify documentary needs and select the key concepts/words in order to question your sources.

1.1. Define the topic

- Choose the topic

Your prior knowledge and personal interests in the subject and its relevance to the teaching to which it relates are fundamental elements that should guide your choice.

First documentary approach

To clarify the subject and to understand it in a comprehensive way, there are several materials that give you an overview of the issue.

What types of items?

At this stage, your sources will mainly include dictionaries and encyclopedias (paper or online), manuals or review articles.

Recommendations

It may be useful to make a list of the different aspects of the issue that emerge in the course of this initial research, as well as a list of points on which you already have ideas

2. - Identifying the subject Use the QQQOCP (3QOCP) method:

This is a mnemonic for retaining a set of simple questions that will be used to identify, clarify and expand on a topic:

Use the QQQOCP (3QOCP) method:

Who? = Who are the actors, the people involved?

What? = What aspects are of interest for my work?

When? = What is the period in question?

Where? = Is the subject limited to a specific geographical area?

How? = What approaches or points of view should be considered? (historical, sociological, economic, political, etc.).

Why? = What is the importance of the subject in the current context?

Our subject: Sport and women

Let's apply the different stages of documentary research on this subject

A. **First ask yourself the questions emanating from the subject.**

Use the "who, when, what, where, how, why?" method. » to be sure of don't forget any research leads.

Who ? Women as athletes or as supporters?

What ? Are we targeting a particular sporting area? Or are we interested in all of the sports?

When ? The integration of women in sport from a historical point of view?

How ? From the point of view of sporting diversity? From the point of view of sexism to which women face?

For what ? Why are there still difficulties integrating women in certain sports disciplines?

B. Then delimit the subject

- Identify the essential terms contained in the subject (the key words), underline them.

Women and sport

-Associate them to define the main idea emanating from the subject

Ex: here the relationships between women and sport, which excludes the exclusive relationship between men and sport OR issues of sexism outside of sport.

3. Formulating the topic

A short sentence

The topic should be expressed in a short sentence, if possible in the form of a question and using meaningful terms. The search statement should be as specific as possible.

Key Concepts

Each term in the statement is important and will correspond to key concepts/words that are used to develop the research equations.

A selection of terms

It is advisable for each concept to search for one or more synonyms or associated terms and their translation into English (or other languages depending on your subject)

5 - Narrow or broaden the subject

At the end of this stage, two types of difficulties may arise:

● Difficulty n° 1:
the subject is too general, too vast.

Major risks :

- Overabundance of documentation

- Treat the subject in a superficial way, wanting to be exhaustive.

What to do?
Restrict the subject by focusing on one aspect of the issue, by delimiting a geographical area or a given period of time. This choice will not be sanctioned if it is argued.

- **Difficulty n° 2: the subject is too precise, too sharp.**

Major risks :

- Very difficult to deal with
- Difficulty locating resources
- Need to interview many sources

What to do?

Put the subject in perspective. Putting the topic in a broader context should allow you to address aspects of the issue that you might not have thought of at first and thus broaden its scope.

4- Selecting sources of information

(to be completed with the document “Identify the different types of documents - Summary”).

2.1. Choice of information sources

After analyzing and delineating the topic, the best sources of information to conduct the literature search should be selected.

There are two dimensions to this process:

- **the type of material** you are looking for: monographs, journal articles, theses, etc.

- **the type of resources to be queried**, which will depend on the nature of the subject and the type of document sought: library catalogues, databases, Web search engines, specialized portals, etc

2.2. Notions of noise and silence

In literature research, two important concepts should be kept in mind. They reflect the failure of a query, which must then be reformulated or refined. (cf. search operators).

Noise It is the set of **irrelevant material found in response to a question**, when searching for information. The relevant **information is drowned in the mass.**

Silence This is the set of **relevant material not posted during a literature search**, where **relevant information is not found and the searcher might think there is none.**

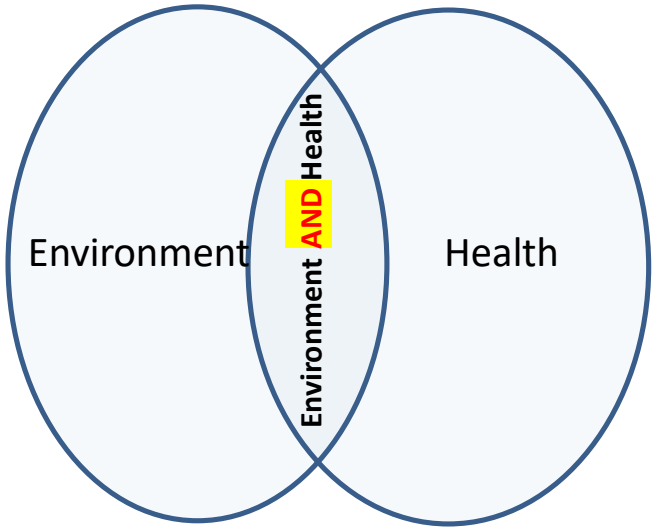
5. Search techniques

By establishing a logical connection between search terms or keywords, they make it possible to find information or material.

6.1-Boolean Operators

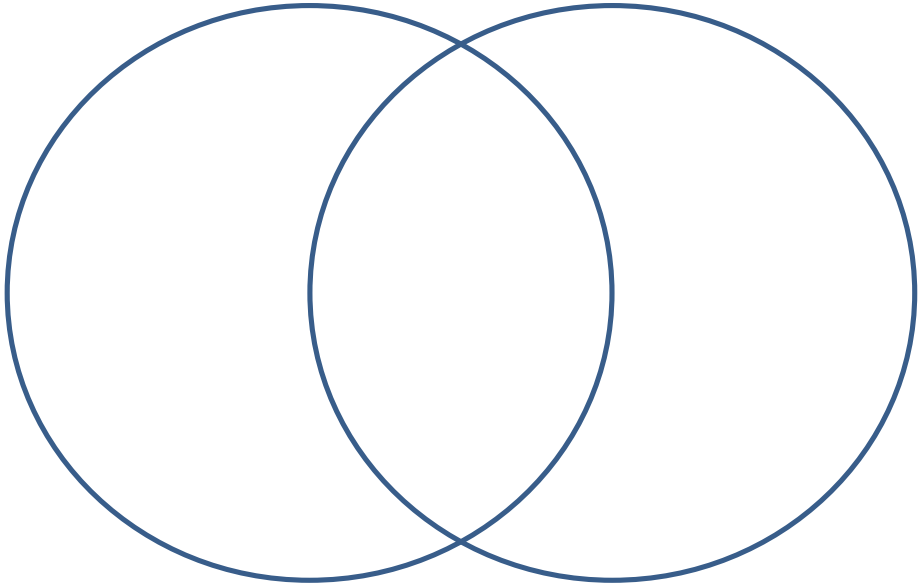
Based on Boolean algebra, they allow for the combination of multiple search elements to refine or broaden a query. There are three operators: **AND**, **OR**, and **NOT**.

" AND: The AND operator represents an intersection. With the AND operator, the displayed references contain both term A and term B. If either term is absent, the reference is rejected. Displayed references must belong to both sets.



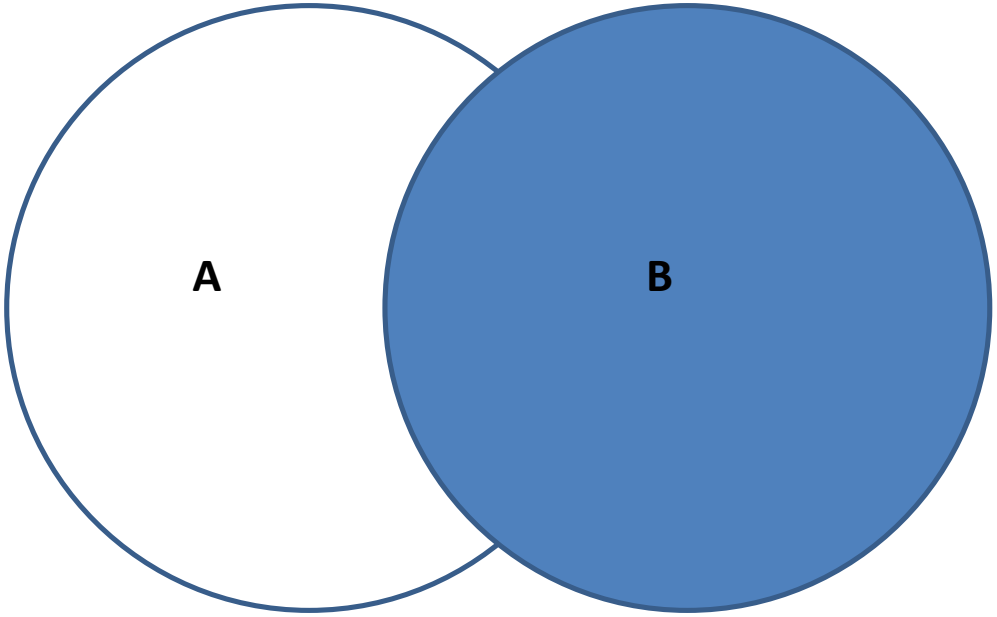
The AND operator has the effect of reducing the number of responses to a question. It is used to refine a question. For example, to search for a document on **environment health** , one would use the query: '**Environment AND Health** '

OR: The OR operator represents **a conjunction**. With the OR operator, the displayed references contain at least one of the terms in the equation. The displayed references belong to one or more sets.



The OR operator has the effect of increasing the number of responses; it combines the results from different sets. It is used to include synonyms in a search query. For example, to search for documents on wheat, one would use the query: 'wheat OR triticale OR قمح

NOT: The NOT operator represents exclusion. With the NOT operator, the displayed references contain term A but not term B. All references in set A that also contain term B are eliminated.



2.3. Exact Phrases and Proximity Operators

When searching for documents about the "greenhouse effect," you can ask the question: "effect AND greenhouse." The results will include documents about the "greenhouse effect," but also documents about the "effect of continuous watering on greenhouse growth," which does not match the original question.

Two tools are available to refine the query: **exact phrases** and **proximity operators**.

An exact phrase is represented in documentary language by the use of quotation marks. You can enforce a multi-term search simply by using quotation marks, for example: "greenhouse effect." This operator works with nearly all existing tools.

Proximity operators allow for more precise searching within a text (title, abstract, etc.). They are only available in certain bibliographic databases. There are two groups of commands: commands that impose a specific order of appearance of terms and those that do not consider the order of appearance. Some common commands you may encounter include "ADJ," "W," "WITHIN," "NEAR," "SAME," or "N," followed by an optional number.

"ADJ": Stands for adjacent. It requires that the terms appear next to each other in the specified order.

"W" or "WITHIN": Specifies that the terms should appear within a certain range of each other.

"NEAR": Requires the terms to be in close proximity, but it is more flexible than "ADJ" or "W."

Parentheses

Parentheses can serve two different functions. Traditionally, they are used to separate elements in a query. For example: "apple* AND (scab OR preservation OR mold*)" is equivalent to "(apple* AND scab) OR (apple* AND preservation) OR (apple* AND mold*)". With certain tools, terms within parentheses are considered to be linked with the "OR" operator, while those outside are linked with the "AND" operator. For example, the query above can be translated as: "apple* (scab preservation mold*)".

2.5. Types of resources

- **Library catalogs**: from municipal or university libraries, they are full of working documents that are useful to students. They also offer the possibility of being able to consult certain content from home.
- **Databases:** These are collections of information that themselves create, store and update data. They are made up of a set of bibliographical references which touch on a specific subject or field. There are several types of databases (news, legal, academic press, business directory, etc.)
- **Web resources:** They are in the form of standard search engines (ex: Google) or specialized (ex: Google Scholar), scientific or thematic portals (ex: online university) or even directories of sites (ex : the BNF bookmarks)

6. Evaluate the quality of the document

In any research work, it is important to be able to rely on reliable data, whether electronic or printed. Critical judgment is required to assess the relevance and reliability of a document. For this we can apply several evaluation criteria:

- **The author / publisher:** is he specialized in the field? has he written / published any other material on the subject? what is its visibility in literature?
- **The relevance of the content of the document:** does it address the subject to be covered? is it academic level? To get a quick idea, you can look at: the title, summary, keywords, introduction and conclusion, table of contents and section titles.
- **The objectivity of the information:** the more scientific the author's approach, the more objective the statement will be. The information should also be compared to other sources dealing with the same subject.
- **Document's date**