

CHAPTER I : Researching, analyzing and organizing information

I.1 Defining the subject and formulating a problem :

This course offers a step-by-step approach to mastering the techniques of documentary research, critical analysis and data organization. The aim is to provide concrete tools adapted to the needs of students and researchers, integrating practical examples and proven theoretical frameworks.

The first step is to clearly delimit the object of research, to avoid drifting off course. Several sources emphasize the importance of this phase, notably by using techniques such as the QQQOCP method (Who, What, When, Where, How, Why).

For example, to study “the impact of social networks on the mental health of adolescents”, we need to identify the actors (adolescents, researchers), the temporalities (recent studies), and the key concepts (mental health, social networks).

Dictionaries and encyclopedias are indispensable resources for clarifying the subject and formulating an operational problem. A problem should be formulated in a concise sentence, allowing the identification of key words and their synonyms, as well as their translation into English to broaden the search.

Given the overabundance of information and the diversity and accessibility of documentary resources, the processes of documentary research and information validation require the application of an effective methodology.

The main aim of this chapter is to provide a methodology for bibliographic research based on the following steps :

- 1. Subject definition** : Identify the research topic,
- 2. Information gathering** : Select sources to consult and tracking tools,
- 3. Source evaluation** : Search catalogues and databases as well as the web by evaluating sources,
- 4. Citation of sources** : Citing sources helps to avoid plagiarism,
- 5. Information processing** : Organize, prioritize the notes taken, structure and synthesize the knowledge thus acquired,
- 6. Communication of information** : The information can be communicated in writing (report, thesis, dissertation...) or orally (oral presentation).

I.2 Why is it important to search, analyze and organize information? I.2.1 Background:

In a world where information is ubiquitous, it is essential to know how to distinguish between

fact and opinion, reliable sources and biased sources, and to structure the information to make it a useful tool.

In a world where information is omnipresent, it is essential to know how to distinguish facts from opinions, reliable sources from biased sources, and to structure the information to make it a useful tool.

Concrete examples:

- A student must write a thesis or academic report.
- A professional must prepare a presentation based on verifiable data.
- A citizen who seeks to understand a complex subject (politics, health, environment)

I.2.2 The ubiquity of information: We are constantly bombarded with information from various sources: traditional media (newspapers, television), social networks, blogs, books, scientific articles, etc.

- **Associated problem:** With so much information available, it becomes difficult to know what is relevant, reliable or useful. Much information is redundant, biased or even false.

I.2.3 Distinguish facts from opinions

- **Fact:** Objective, verifiable and evidence-based information. For example: "Global average temperature has increased by 1.1°C since the pre-industrial era."
- **Opinion:** A subjective interpretation, often influenced by personal beliefs or emotions. For example: "Climate change is not a serious problem."
- **Why it's important:** Confusing facts and opinions can lead to wrong decisions or an incorrect understanding of a subject.

I.2.4 Identify reliable sources and avoid bias:

- Reliable sources:** Information produced by experts, recognized institutions or credible organizations. Example: an article published in a peer-reviewed scientific journal: A paper published in a peer-reviewed scientific journal.
- Biased sources:** Information that promotes a particular point of view, often to the detriment of neutrality. Example: An article funded by a company to promote its products.
- Why it's crucial :** Biased sources can manipulate information to influence readers or serve specific interests.

I.2.5 Structuring information to make it useful :

- What it means:** Organize information in a logical and accessible way so that it can be used effectively to solve problems, make decisions or communicate ideas.

Example : Create a well-structured report with clear sections (introduction, methodology, results, conclusion) to facilitate reader understanding.

I.3 Subject Definition: To clarify the subject, understand it and pose a problem, we must study the following points:

- Understand the key steps to effectively search for information.
- Learn how to analyze and assess the quality of information.
- Discover ways to organize and structure information in a logical and accessible.

I.3.1 Identify the topic: To avoid misunderstandings, misstatements and omissions, the subject should be delineated using the 3QOCP questioning technique .

- **Who:** Author, function of the author, contact possibilities (phone, mail...)

- **What:** Content, topics covered, wealth of information

- **When:** Date of creation and update

- **Where:** home page URL, host country

- **Comment:** site tone (neutral, polemic), presentation, spelling...

- **Why:** Author's intention (sell, inform), type of site (institutional)

- personal, corporate, association.

I.3.2 Keyword Release: The subject should be expressed in a short sentence and meaningful terms. Each term in the statement is important and will correspond to concepts/keywords that will be used in Developing Research Equations.

For each concept, it is advisable to search for one or more synonyms or associated terms and their translation into English in order to broaden the search.

The tools to understand and delimit the subject are grouped under the term

D'usuels" which include:

- The dictionaries;
- The encyclopedias.

I.4 Collected information : After having delimited the subject and uncluttered the keywords, it is possible to combine the keywords to collect the information.

The approach to finding the best sources of information for literature searches has two dimensions, depending on the type of documents to be consulted and the type of resources to be queried.

I.4.1 The type of documents: It depends on the level and nature of the information sought:

- Dictionaries and encyclopedias, useful for understanding the subject and clarifying it, especially when it comes to new concepts.
- Books or monographs, useful for further research. Included in this category are:
- manuals, which provide an update on a question,
- mementos, which allow to get a quick idea about a subject,

- specific ones, which deepen an aspect of the question,
- Proceedings of conferences, which are the minutes of a congress
- General or specialized periodicals**: they allow us to keep informed of the latest research results or news on a societal issue.
- Theses, dissertations, research reports** : of a high scientific level, they are appropriate to treat a sharp subject
- Specific documents (maps, patents, images, statistical data, etc.)** : their use will depend on the discipline or approach chosen to deal with a subject
- **Official documentation** : this is all the official documents published by the State (laws, decrees, regulations, public contracts, associations, etc.)

I.4.2 The type of resources : It will depend on the nature of the subject and the type of document sought :

- Library catalogues** : multidisciplinary, they are essential to find paper documentation.
- The resources of the Web**: They are countless but their quality is extremely variable. Some recommended sites for scientific and academic information search

I.5 Source Assessment : The evaluation focuses on research methodology, with two points to be analysed in particular :

- Document Relevance** : Fit between Content and Need Enrolled in the research field
Answers to questions asked.
- Source reliability** : Assessment of the source used to determine whether a document provides valid and reliable information. Check
- **The author's reputation**: recognized in his field or not. On a web page, consult the sections "About" or "Who are we" (= have information on the authors/ organization etc. that write the pages of the website consulted).
- **The objectivity of information** : partial or impartial. Identify the objective sought, the intention of the author according to the type of source (political, scientific, journalistic, commercial, personal,...)- The level of information (general public, specialists, schools) that can be identified from the target audience
- Accuracy of information** : cross reference with other sources
- Current information** : recent or dated (criteria to be evaluated according to the research context). On a web page, identify the date of creation of the site and the date of last update to know if the information is current.

I.6 Citation of sources : Quotation is the act of quoting, reporting the words or sentences of someone; words, passages borrowed from an author or someone who is authoritative.

The quotation avoids plagiarism but also:

- Respect the copyright.
- Give credibility to the work.
- Demonstrate scientific rigour.
- Allow the reader to trace back to the source.

In a research work, the source of citations must be indicated at 2 places:

- In the text, cited in an abbreviated way (The citation call in the text), it can be identified:
 - Either by author with the name(s) of (s) author(s) that is to say the name of the first author or the names of the first 3 authors or the names of all the authors
 - Either by number.
- At the end of the text, create a bibliography and cite all sources. Bibliographic references will be classified:
 - Either in alphabetical order of the first author cited, in case of a citation call by author,
 - Either in numerical order, in the case of a call for quotation by number.
- The bibliography presents all the bibliographical references used to lead to Well your research work.

Bibliographic references should be arranged as follows :

- Book** : AUTHOR, First name. Title of the work. Edition.
- Periodical article** : Title of the article. Title of the periodical, year, issue.
- in a dictionary or encyclopedia** : Title of the dictionary or encyclopedia (dates of edition).
- On the internet or online
- Article** : Title of the resource, date of the document, (date of consultation) <URL>
- Databases** : Name of the databases, Location, Editor, date

I.7 Information Processing: In this step, the relevant information obtained is then analysed and finally, a summary is made. This step can be organized as follows:

1. The search in documents, pages where all the information is needed to deal with the subject.
2. Selecting only the most interesting, the most telling information.
3. Restrict or expand subject depending on the overabundance or difficulty of locating documentation.
4. Take notes: Avoid copying the content of documents word by word.
5. Cite references used in documents.
6. Process information, reformulate it and respond to the research topic.

7. Think about the connections that need to be made between different parts of the work and build a coherent plan.

I.8 Communication of information: The information can be communicated in writing (report, thesis, brief...) or orally (oral presentation). The organization of this stage is as follows:

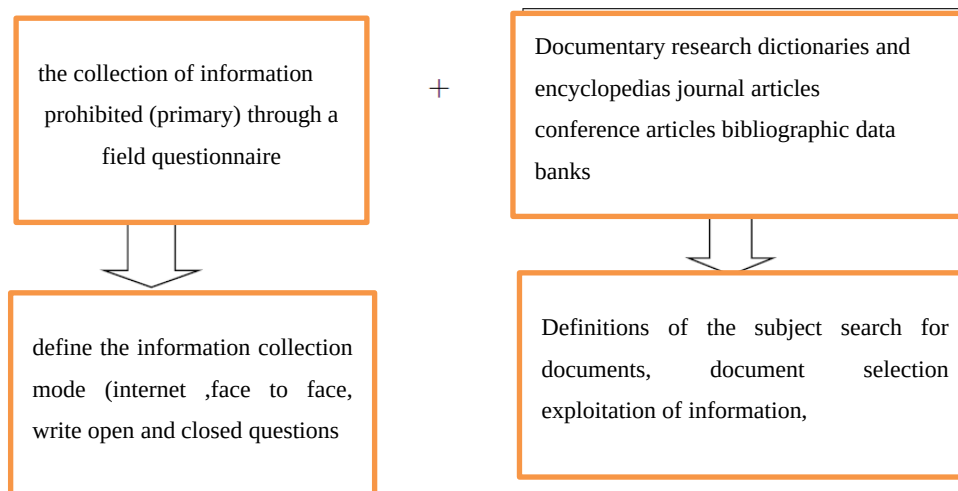
- Gather all the material (starting questions, reading notes sheets)
- Write the work in correct and understandable French from reading sheets and following the coherent plan.
- Think about the logical sequence of my paragraphs.
- I don't paraphrase.

I.9 A knowledge: is the result of the appropriation and interpretation of information.



I.9.1 Information Retrieval Tools:

There are many tools to search for information. The organization will have to opt for the most relevant means, that is, one which allows quick access to quality information at a lower cost. The organization uses two main collection modes: survey and literature search.



I.10 Information Analysis :

After searching for and finding information, it is essential to **analyze this information** in order to verify three elements:

- **the relevance of the information:** does the information found correspond to my need for information? Is it relevant to my subject and research objectives?

- **the reliability of information:** refers to the degree of confidence that can be given to it. Is this information reliable, that is to say can I trust it, what are the elements that can allow me to know if this information is correct or not, whether it is objective or subjective...? It depends on several elements: the identification of the source; the accuracy of the data, the facts.

-**the validity of information:** refers to the credibility that can be given to the document: the seriousness of a source, an author (competence and notoriety). Knowledge of the discipline or field is desirable.

Analysis is the examination of information (sorting, adding, comparing) to better understand the relationships between the 'whole' and the "parts".

I.11 Organization of information:

Once the information has been analysed and selected, it is necessary to put this information in relation to each other, that is to say, to identify the links between them so as to make the best use of them. These relationships may be:

- **the opposition:** the information contradicts each other, they give different and contradictory opinions (but not false!)

- **complementarity:** the information is complementary, it gives different and complementary opinions.

- **redundancy:** the information is repeated, it does not bring anything more than what we had at the beginning.

The organization of information facilitates understanding and provides fast, reliable and up-to-date information.

I.12 Removing and organizing information from a document :

-**Analyze a series of documents** For each document, you must **present it, describe it and answer the problem.**

-Present a document There are several types of documents: text, photograph, drawing, diagram, table, graphic... Each time, the type and subject addressed by the document must be specified.

- Describe a document

- If the document is a photo, diagram or drawing of observation, you must describe precisely what you observe.

- If it is a text, you must summarize it by explaining the topic.

- If it is an experiment with its results, it must be interpreted

- If it is a model, the analogies and limitations of this manipulation must be presented.

First step, always keep the question or problem in mind.

- Read the document
- List the information provided by the document - Reread the instruction to find out what you are looking for.
- Select from the information provided by the document those that are useful - to achieve the given command.
- Reformulate the selected information.

I.13 Answer the problem : It is up to you to find out how this document allows you to answer the problem. Each document may only address part of the problem, and all information presented in the document may not be relevant to addressing the problem.

I.14 Writing a Reasoned Text

- Identify essential information content:
- fast and efficient reading
- identification and classification of indices
- Perceiving the overall meaning of a document
- identification of the theme, the problem
- Terms of reference
- Read the instruction carefully
- Select information, useful phenomena to answer the problem in the various documents (draft).
- Reformulate selected information (draft).
- Arrange the text (draft).
- Write the following plan
- respecting the rules of French: understandable sentences, spelling, grammar, short sentences,
- using a precise scientific vocabulary,

I.15 Skills :

- ✓ Know the complementary techniques related to communication (printing, audiovisual, documentary database, multimedia, PAO...).
- ✓ Know how to organize a search for information in order to process and classify it, possibly synthesizing it according to the requests.
- ✓ Knowledge of the scientific disciplines and research environment in its field of intervention.
- ✓ Know how to lead a team.
- ✓ Practice English.

I.16 The Report:

What is a report?

A debrief is an exercise that is subject to strict rules. It is an exercise of Synthesis of a document. You must, from a written document, reproduce in your own words, the essential Ideas of the author respecting a plan that you have previously developed. The plan does not necessarily have to respect that of the original text.

-This exercise will assess your ability to :

-Understand a written document.

-Use a spirit of synthesis .

-Organize and articulate your ideas;

-Ensure the linguistic quality of your French.

This exercise is required in French universities and is part of a frequently encountered writing. It is also offered in the context of competitions for the French public service. How many words do I have to write? .

-The number of words you need to write depends on the document you are given. General rules.

Follow the general rules of the record throughout your writing : never use the first person of the singular and plural; you account for the thought of an author.

-Avoid copying sentences from the support document : you must express yourself with your own words. Summarize and reformulate ideas that you think are important

- **Organize your plan** : articulate each of your parts with each other. In each part, you will present a key idea and related secondary ideas.

-Don't forget caps and punctuation : your work must be punctuated (neither too much nor too little); punctuation makes reading easier, gives consistency to your work and avoids sentences that are too long and may be inconsistent or even difficult to understand.

I.16.1 Write a report

-Objectives and communicative skills.

-Identify the nature of a document.

-Identify the main theme, the stakes, and the overall organization of a text.

-Synthesize and rephrase the information in a personal language, objectively.

I.16.2 Presentation : In order to acquire the writing skills presented in this method, one requirement is necessary :

How to read a text ?

Mastering text comprehension techniques is essential in the exercise of administrative or diplomatic responsibilities. This ensures gains :

- of time ;
- efficiency
- and rigor.

Knowing and mastering document analysis methods form the foundation of the civil servant profession. These analysis methods will help you carry out a large number of tasks that every civil servant is required to perform daily throughout their career:

- reading the news ;
- press review;
- quick reading and understanding of the important elements of a letter or a speech .
- analysis and synthesis of documents such as speeches, press articles, directives.

-Before proceeding to read a text, consider:

- identify the type of document (newspaper article, note, speech, memoirs of a politician, legal text, survey, report, etc.);

-appreciate the context of the document (its publication date, its historical situation, the author's background, etc.)

-There are several levels of reading:

1. Superficial reading (or skimming) immediately invites one to ask

b. Phrase-by-phrase analysis

Only then (and for difficult texts), will you proceed with a more detailed analysis, sentence by sentence. For example, you could create a table in which you highlight the main ideas and their logical sequence.

2. The scope of the document

When reading a document, it is important to ask the following questions:

- What is the significance of this document?
- What will be the potential consequences of the measures mentioned in this document on the future of the State, the Administration ?

In the functions that will be yours, you will be both the "recipient" of the text and the "user," meaning you will have to use it:

- either to make it more readable;
- either to make a summary or a report
- either because it will help you form an opinion on a specific topic
- either because it will serve as a basis for such and such policy

- either to criticize its content.