Abdelhamid Ibn Badis University- Mostaganem

Faculty of Sciences and Technology

Civil Engineering Department

UNIVERSITE
Abdelhamid Ibn Badis
MOSTAGANEM

COURSE HANDOUT

LITERATURE SEARCH AND THESIS PLAN

Field: Science and Technology

Sector: Civil engineering / Public works

Level: Master II

Dr. SARDOU Miloud

Reviewed by :

Prof. ABBAD Amel

Prof. BELAS Nadia

2023-2024

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Introduction

This course handout on literature search and thesis plan is intended for Master II students in civil engineering and public works. It covers the various steps and techniques needed to conduct an effective literature search and successfully design a dissertation.

The first part of this handbook is devoted to literature search. Chapter 1 deals with identifying the subject of the thesis and the relevant keywords. It also discusses the importance of gathering information, including acquiring a specialized vocabulary and understanding key terms. In addition, it will present how to search for relevant information and evaluate knowledge in the field.

Chapter 2 will present the selection of information sources, exploring different types of documents such as books, theses, dissertations found in libraries or on the Internet. Assessing the quality and relevance of information sources will also be discussed.

Chapter 3 will deal with document location techniques, focusing on search methods and research operators that facilitate efficient searching.

Chapter 4 will deal with the processing of collected information and the presentation of the bibliography, including the different systems for presenting a bibliography and techniques for citing sources.

The second part of this handout will focus on the plan of a thesis. Chapter 1 will explain the plan and stages of the dissertation, focusing on the different sections that make up the thesis.

In Chapter 2, writing techniques and standards will be presented, including formatting, chapter, figure and table numbering, punctuation, scientific writing and data storage.

Chapter 3 covers the critical study of a manuscript. Chapter 4 deals with oral presentations and defenses, detailing poster presentation, communication, and thesis defenses. Chapter 5 deals with plagiarism prevention, focusing on citation, paraphrasing and bibliographical references.

Table of contents

Abstract

This course handout titled "Literature search and thesis plan" is intended for master's students in civil engineering and public works. It covers the various stages necessary for the effective and methodical completion of a thesis. The emphasis is on the importance of literature search, providing guidance on selecting reliable sources, managing bibliographic references, and utilizing appropriate research tools. It also offers techniques for defining thesis topics, formulating research questions, and determining objectives. Additionally, the course handout addresses practical aspects such as thesis writing, structuring, and presentation, as well as best practices to avoid plagiarism and ensure academic integrity.

Keywords: Literature search, Thesis plan, Master's thesis, Writing, Structuring, Presentation, Plagiarism.

Résumé

Ce polycopié de cours intitulé "recherche documentaire et conception de mémoire" est destiné aux étudiants de master 2 en génie civil et travaux publics. Il aborde les différentes étapes nécessaires à la réalisation d'un mémoire de manière efficace et méthodique. Il met l'accent sur l'importance de la recherche documentaire, en fournissant des conseils sur la sélection de sources fiables, la gestion des références bibliographiques et l'utilisation d'outils de recherche appropriés. Il propose également des techniques de délimitation des sujets de mémoires, la formulation des problématiques et la détermination les objectifs. Ce polycopié de cours aborde également des aspects pratiques tels que la rédaction, la structuration et la présentation d'un mémoire, ainsi que les bonnes pratiques pour éviter le plagiat et assurer l'intégrité académique.

Mots clés : Recherche documentaire, Conception de mémoire, Mémoire de master, Rédaction, Structuration, Présentation, Plagiat.

Part I: Literature search

Overview of literature search
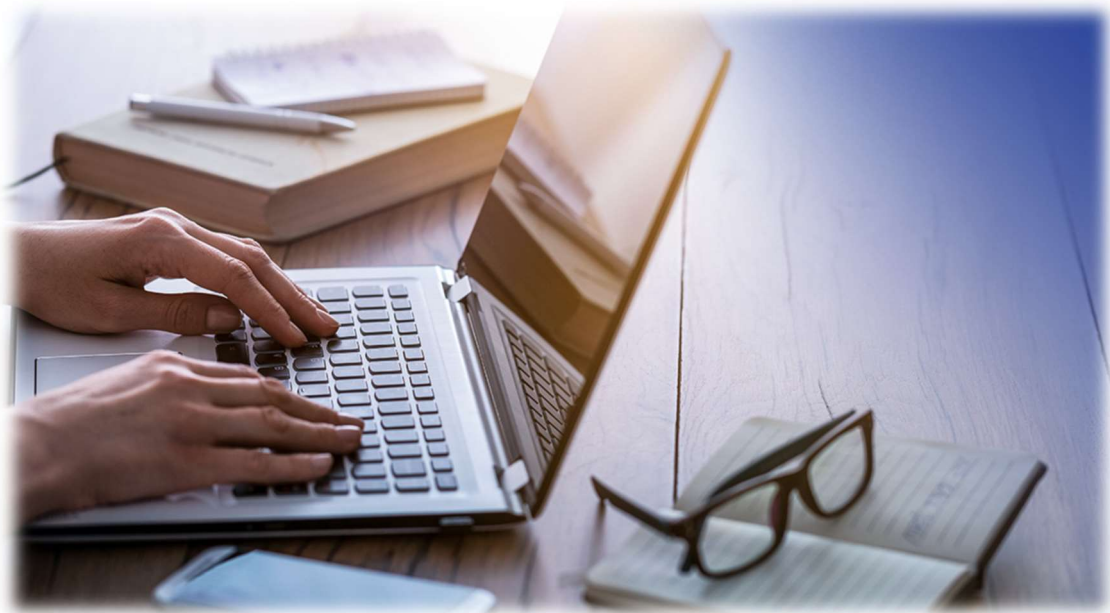
Definition

A literature search is a systematic and comprehensive exploration of all available published materials relevant to a specific scientific or technological subject. This investigative process involves a thorough examination of various literature sources, including but not limited to books, peer-reviewed articles, conference proceedings, and other scholarly publications, with the aim of acquiring a comprehensive understanding of the chosen topic[1].

Why conduct a literature search?

Conducting a literature search stands as a vital element in every evidence-based project. It facilitates a profound comprehension of the intricacies surrounding a specific issue, offers valuable insights into the problem's extent, and furnishes optimal treatment strategies along with the most current evidence in the field. Omitting this crucial step impedes the progression of your evidence-based practice project[2].

The objectives of literature search

The reasons for conducting literature search are numerous that include drawing information for making evidence-based guidelines, a step in the research method and as part of academic assessment. However, the main purpose of a thorough literature search is to formulate a research question by evaluating the available literature with an eye on gaps still amenable to further research[3].

QQQOCP (3QOCP) method

This is a memory technique designed to retain a series of simple questions that can be used to identify, explain and develop a subject. There are questions that are often used in research, study, or problem-solving contexts, and each question represents a specific aspect to be explored:

What?: What is the subject or issue to be addressed? What is at stake?

Who?: Who are the actors or stakeholders related to the subject? Who is involved?

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[1] https://www.merriam-webster.com/dictionary/literature%20search
[2] https://accelerate.uofuhealth.utah.edu/improvement/how-to-conduct-a-literature-search
[3] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5037943/

When?: When does the subject take place or apply? What is the timeline of the situation?

Where?: Where is the subject located geographically or in what specific context?

How?: How does the subject unfold or manifest? What are the mechanisms or processes involved?

Why?: Why is the subject important? What are the reasons or motivations behind it?

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[4].

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.
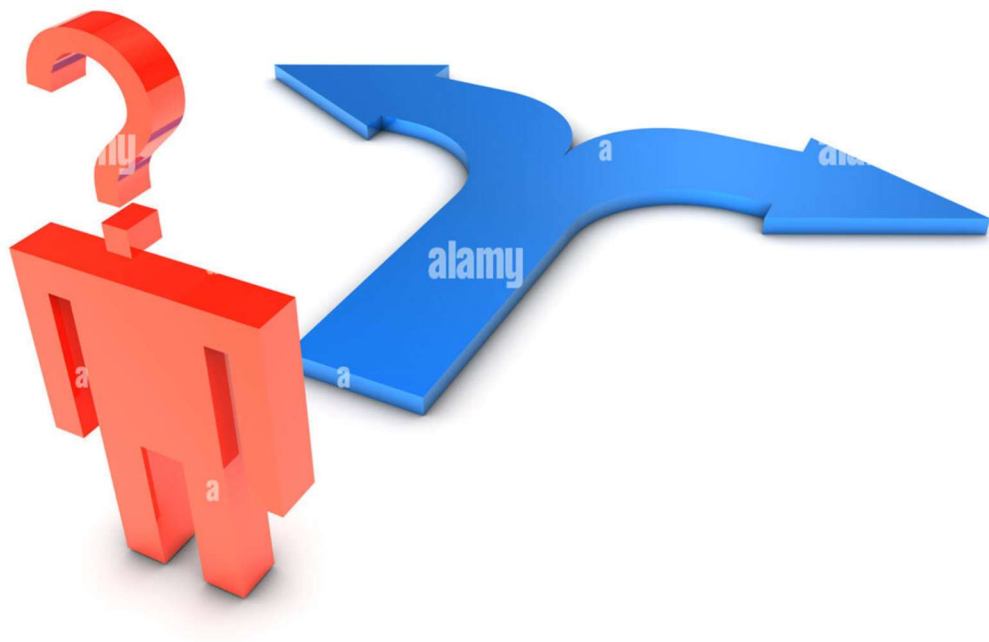
Silence

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.

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1. Defining the subject

A research problem is a specific issue or gap in existing knowledge that forms the foundation for a research study. It can be practical or theoretical, guiding the research purpose and direction. Identification involves reviewing studies and engaging practitioners. Importantly, a research problem is distinct from a research topic, representing a statement about an area of concern or a challenging question that needs addressing[5].

A research problem is a detailed and specific step in a larger research topic. It goes beyond the general topic or area of interest by focusing on a particular question or problem within that topic. Essentially, the research problem refines and narrows the scope of the research, providing a more precise line of investigation.

1.1. Subject title

Choosing a topic for your master's thesis is an important step and must meet the following criteria:

- Interesting (personally and professionally),
- Relevant (provides added value),
- Feasible (subjects for which empirical data collection is possible).

1.2. List of keywords related to the topic

The keywords help define the research topic and conduct an effective search. These keywords synthesize and adapt the work in relation to the search engines.

Keywords evolve according to search results. When there are a lot of results, we specify these keywords and adapt them when we want to widen the field due to insufficient search results.

A keyword can take various forms. It may be a precise word, such as a technical term. Alternatively, a keyword can be a term that succinctly summarizes a sentence. It could also be a term with a single, unambiguous meaning. Additionally, a keyword can be an exact phrase, and when searching, it should be enclosed in quotation marks for more accurate results[6] (Figure 1).

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[5] https://www.scribbr.com/research-process/research-problem/
[6] https://tutos.bu.univ-rennes2.fr/c.php?g=686267&p=4922042
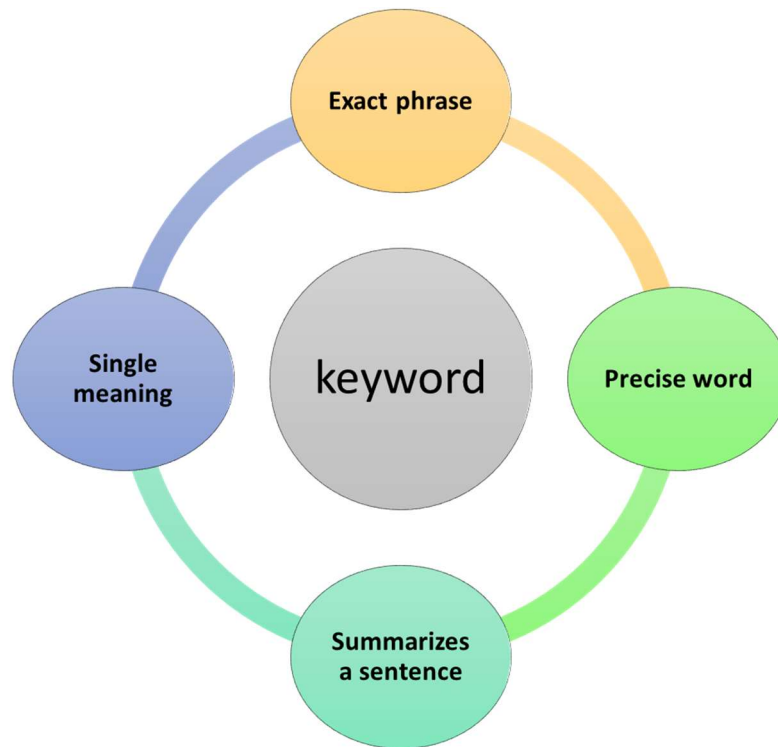
Figure 1- Types of keyword

1.3. Gathering background information

To build specialized vocabulary, understand the meaning of terms and obtain linguistic definitions, follow these steps[7]:

- Analyze the context of your research topic.

- Identify key terms related to your field of study.

- Use specialized dictionaries and online glossaries.

- Explore scientific journal articles to familiarize yourself with specific terminology.

- Consult online resources such as specialized encyclopedias and disciplinary databases.

- Refer to specialized manuals and books, using indexes and glossaries.

- Use online search tools to find definitions and explanations of specialized terms.

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[7] https://www.eiu.edu/booth/instruction/gbgi.html

1.4. The necessary information

Different types of information can be searched for, depending on the research topic and objectives. The types of information commonly sought are:

- State of the art and literature review,

- Empirical data,

- Statistics and figures,

- Case studies and real examples,

- Theories and conceptual models,

- Historical information and sources,

- Contemporary perspectives and latest advances.

1.5. Assess your knowledge in the field

To assess the level of understanding, identify the gaps to be filled and determine the next steps in literature search, the following steps are necessary[8]:

- Reflection on previous academic experience.

- Analysis of course notes and materials.

- Draw up a list of key fields related to the research topic.

- Consultation of bibliographic references to articles and books.

- Preliminary research to keep abreast of recent developments.

- Identify gaps in knowledge.

- Creation of a reading list to fill these gaps.

- Discussion with experts in the field

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[8] https://resources.nu.edu/researchprocess/literaturegap

2. Selecting information sources

2.1. Document type

Various types of documents can be used to produce a Master's thesis, such as books, theses, dissertations, scientific articles, conference proceedings and audiovisual material. **Books** offer in-depth coverage and historical perspectives, **theses and dissertations** provide detailed research, previous **dissertations** can serve as examples and references, **scientific articles** present specialized research, **symposium proceedings** reflect the latest advances, and **audiovisual documents** provide additional information (Figure 2).
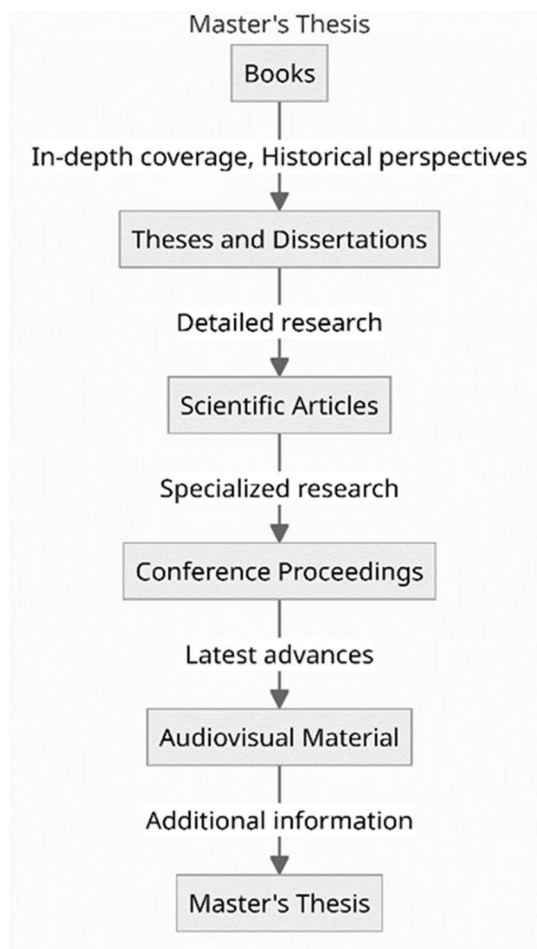
Figure 2- Types of documents used to produce a Master's thesis

2.2. Resource type

To obtain a complete overview of the research topic, several resources can be used, including libraries, online academic databases, specialized archives and databases, official documents and institutional reports, academic and social networks, as well as interviews and surveys (Figure 3).
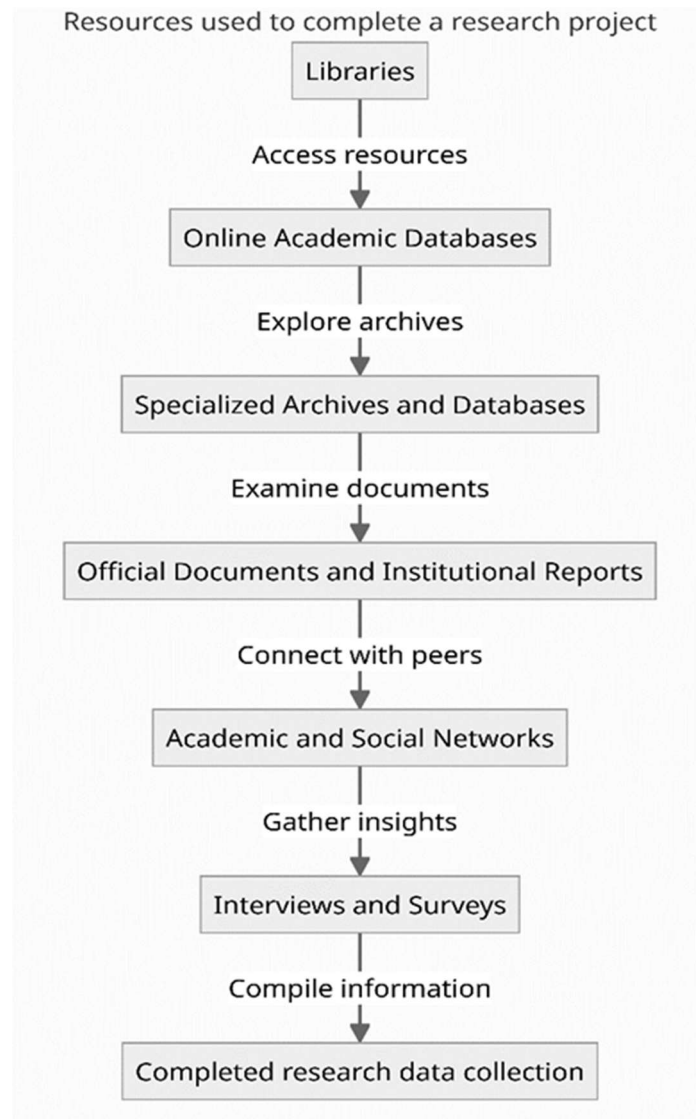
Figure 3- Type of resource used to complete a research project

2.3. Evaluate the quality and relevance of information sources

There are several criteria to consider when assessing the quality and relevance of information sources[9]:

- Reliability and credibility of the source,

- Differentiation between primary and secondary sources,

- Timeliness and objectivity of the source,

- Research methodology used,

- Consistency with other reliable sources,

- Direct relevance to research topic and dissertation objectives.

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[9] https://libguides.library.cityu.edu.hk/litreview/evaluating-sources

3. Locating documents

Locating documents is the fundamental stage in any successful research venture, representing the bedrock upon which scholarly contributions are constructed. This process involves strategically navigating both digital and physical resources to uncover primary texts and authoritative works that form the basis for informed insights.

3.1. Research techniques

In order to be able to find a variety of relevant documents needed for the Master's thesis, the following research techniques should be followed[10]:

- Use of online academic databases that provide relevant research articles and academic resources,

- Identification of relevant keywords to be used in searches to refine results,

- Exploration of bibliographic references of relevant documents to find other useful sources,

- Upstream research and verification of citations of relevant documents by other researchers in subsequent articles,

- Consultation of physical libraries, archives and research centers to access books, theses and printed documents,

- Consultation of sources recommended by experts,

- Search for official documents on the websites of government agencies, international organizations and academic institutions.

3.2. Research operators

The search operators are useful tools for improving your document research. Here's a summary of the main search operators:

- Boolean operators: AND, OR, NOT: By establishing a logical connection between search terms or keywords, they make it possible to find information or material (Figure 4).
  - ➢ AND: use "AND" to find documents containing all the specific terms you mention. Ex: Search for information on renewable energies AND energy efficiency to explore sustainable approaches.
  - ➢ OR: use "OR" to broaden your search to include documents containing any of the specific terms you mention.
  - ➢ NOT: use "NOT" to exclude specific terms from your search results.

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[10] https://www.scribbr.com/dissertation/methodology/

- Quotation marks: use quotation marks to search for an exact phrase. French quotation marks (« ... ») and English quotation marks (" ... ").

- Asterisk (*): use an asterisk to search for variations of a word. Ex: Search for "technology*" to get results covering terms like "technology", "technologies", "technological", etc.

- Parentheses: use parentheses to group terms and specify the order in which search operations are performed.
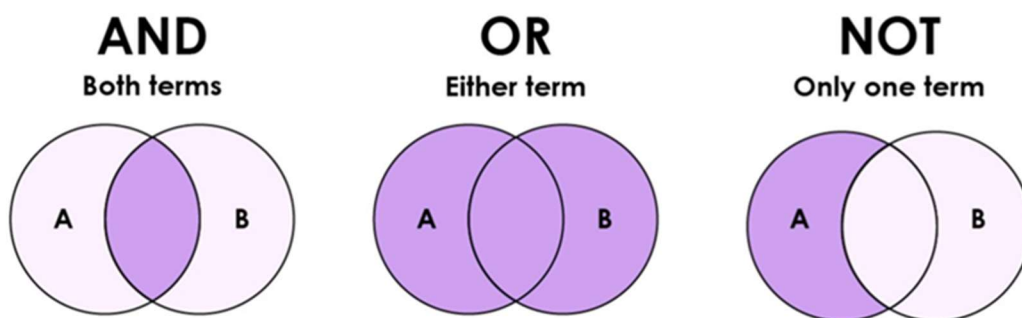
Figure 4- Boolean operators

4. Information processing
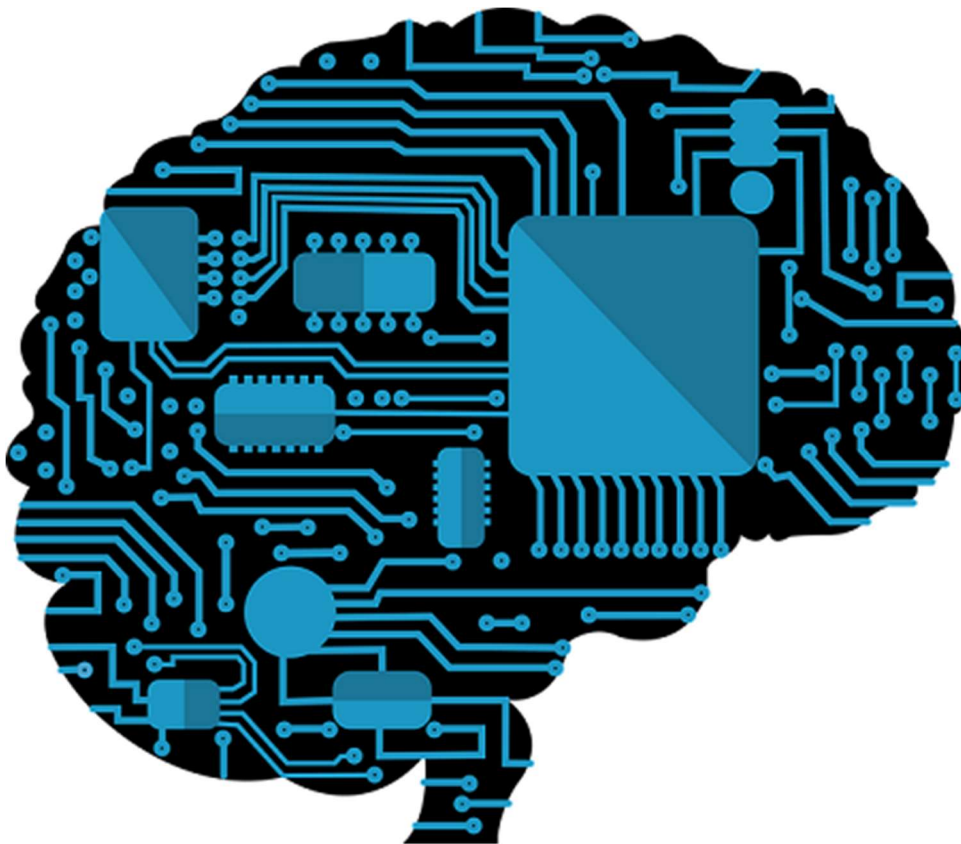
4.1. Work organization

The structured process ensures the organization of the research work and the thesis writing. The steps involved in organizing the work can be summarized as (a) understanding the program requirements, (b) choosing the relevant topic and (c) establishing a plan with clear deadlines, (d) developing in-depth research and collecting data, (e) structuring the dissertation into clear chapters and writing the sections accurately, (f) carefully revising the dissertation, (g) creating the reference list (Figure 5).
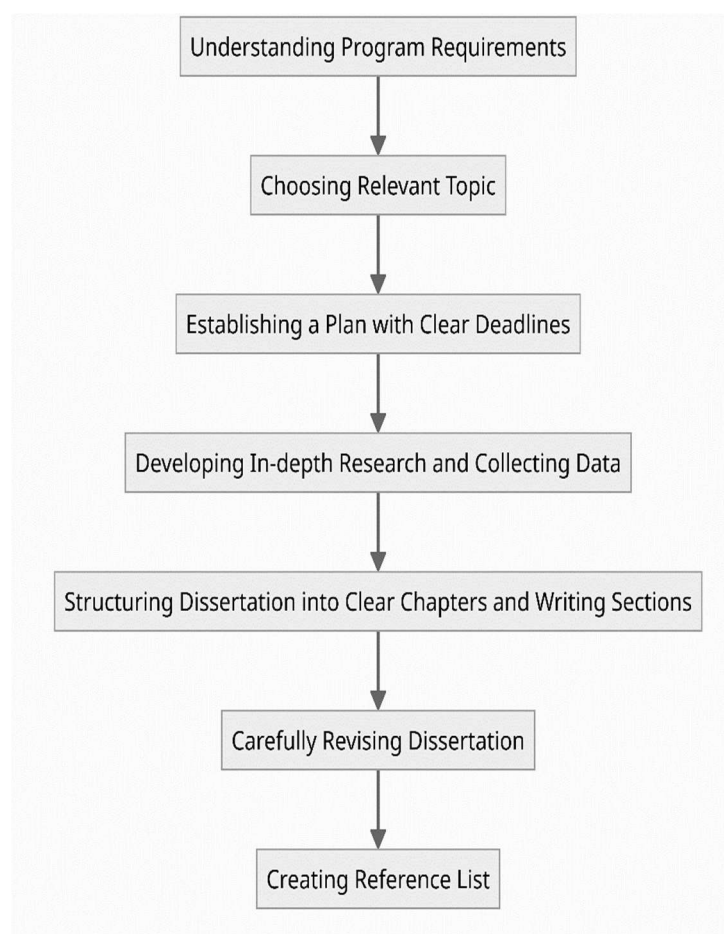
Figure 5- Process for organizing the research work

4.2. Starting questions

The starting question for a Master's thesis must be relevant, clear, specific, original, feasible, consistent with the objectives of the thesis and capable of generating an

analytical response[11]. To define the starting question, follow these steps: choosing an area of interest, making a preliminary exploration, reflecting on personal interests, identifying problems or gaps, formulating a clear research question.

4.3. Synthesis of selected documents

Synthesis is essential for identifying gaps, making connections and formulating arguments. The key points for synthesizing documents can be summarized as follows:

- Read documents carefully and take notes,

- Identify similarities and differences between documents,

- Organize synthesized information logically into categories or themes,

- Analysis and interpretation of synthesis results.

4.4. Links between different parts

To ensure coherence and fluidity between the different parts of a literature search, enabling readers to follow the arguments in a logical and understandable way, you need to identify key themes and create a structure or plan using sub-themes or categories. Then use transitions and connectors, referring to the documents cited.

4.5. Final plan for literature search

The following steps help determine the final plan of a literature search project:

- Review research objectives

- Organize information

- Establish a logical structure

  - *Clear introduction, Main sections, Developing information, Use of sub-sections if necessary, and Conclusion*

- Review and adjust the plan

- Obtain feedback to improve the literature search plan.

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[11] https://ablesim.com/research-methodology-in-masters-dissertations/
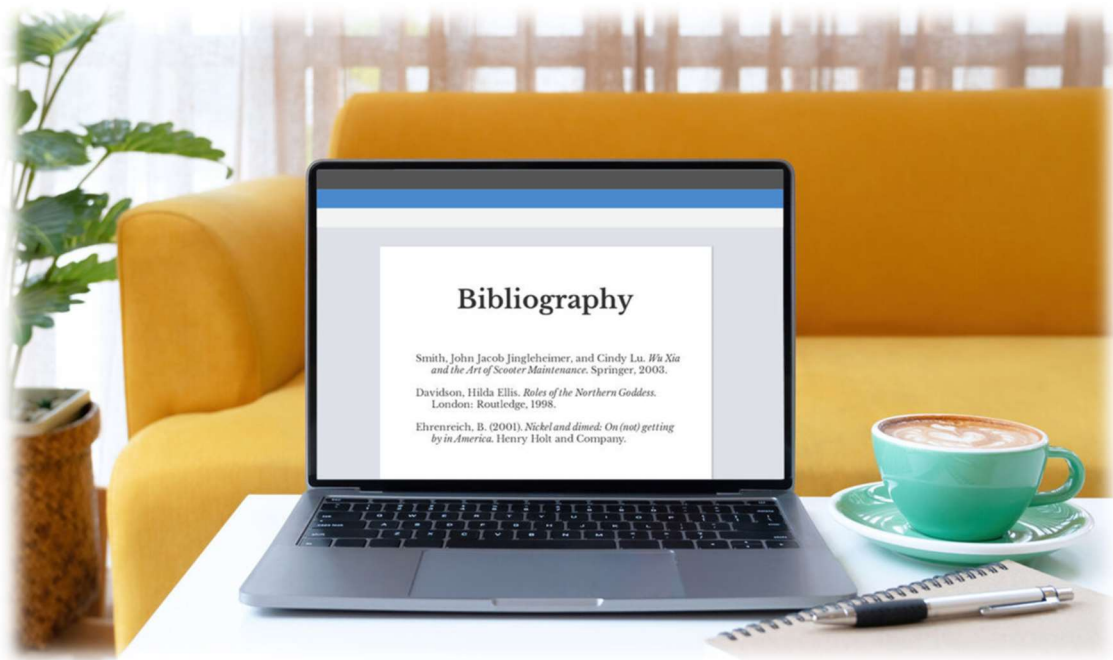
5. Presentation of the bibliography

5.1. Bibliography presentation methods

There exist a multitude of approaches and methods for effectively presenting a bibliography, ranging from traditional formats such as the Chicago Manual of Style and Modern Language Association (MLA) guidelines to more contemporary and specialized citation styles, each catering to the unique requirements of diverse academic disciplines and publications:

➢ **Harvard citation method:** use of parentheses in the text and list of references at the end of the document.

In-text Citations

Book

According to Smith (2010), climate change is a pressing global issue.

Journal Article

Recent studies (Johnson, 2018) suggest that the impact of technology on education is significant.

Website

The World Health Organization recommends regular handwashing (WHO, 2020).

List of References

Book

Smith, J. (2010). Climate Change and Its Impacts. Publisher.

Journal Article

Johnson, A. (2018). The Role of Technology in Education. Journal of Educational Research, 45(2), 123-145.

Website

World Health Organization. (2020). Hand hygiene. [URL]

➢ **APA citation method**[12]**:** use of parentheses in the text, specific rules for formatting references.

In-text Citations

Book

According to Smith (2010), climate change is a pressing global issue.

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[12] American Psychological Association

Journal Article

Recent studies (Johnson, 2018) suggest that the impact of technology on education is significant.

Website

The World Health Organization recommends regular handwashing (WHO, 2020).

List of References

Book

Smith, J. (2010). Climate Change and Its Impacts. Publisher.

Journal Article

Johnson, A. (2018). The Role of Technology in Education. Journal of Educational Research, 45(2), 123-145. https://doi.org/xxxxx

Website

World Health Organization. (2020). Hand hygiene. https://www.who.int/hand-hygiene

➢ **MLA citation method**[13]**:** use of parentheses in the text and list of references at the end of the document.

In-text Citations

Book

According to Smith, climate change is a pressing global issue (45).

Journal Article

Recent studies suggest that the impact of technology on education is significant (Johnson 123).

Website

The World Health Organization recommends regular handwashing ("Hand Hygiene").

Works Cited

Book

Smith, John. Climate Change and Its Impacts. Publisher, 2010.

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[13] Modern Language Association

Journal Article

Johnson, Alice. "The Role of Technology in Education." Journal of Educational
Research, vol. 45, no. 2, 2018, pp. 123-145.

Website

"Hand Hygiene." World Health Organization, www.who.int/hand-hygiene.

➢ **Vancouver citation method:** use of numbers in the text and a list of numbered
references.

In-text Citations

Book

Climate change is a pressing global issue^(1).

Journal Article

Recent studies suggest that the impact of technology on education is
significant^(2).

Website

The World Health Organization recommends regular handwashing^(3).

List of References

Book

Smith J. Climate Change and Its Impacts. Publisher; 2010.

Journal Article

Johnson A. The Role of Technology in Education. Journal of Educational Research.
2018;45(2):123-145.

Website

World Health Organization. Hand hygiene. [URL].

➢ **Chicago citation method:** use of footnotes or endnotes, with detailed reference list.

Footnote Examples

Book

Climate change is a pressing global issue[1].

Journal Article

Recent studies suggest that the impact of technology on education is significant[2].

Website

The World Health Organization recommends regular handwashing[3].

Reference List

Book

Smith, John. Climate Change and Its Impacts. Publisher, 2010.

Journal Article

Johnson, Alice. "The Role of Technology in Education." Journal of Educational Research 45, no. 2 (2018): 123-145.

Website

World Health Organization. "Hand Hygiene." [URL].

5.2. Documents presentation

The presentation of documents in a bibliography depends on the citation style used. The basic styles generally included in documents are as follows:

Books

Author's name(s) in uppercase, first name(s) in lowercase.

Title of work in italics or underlined.

Place of publication: publisher, year of publication.

Example: DUPONT, Jean. Title of work. Paris: Penguin Random House, 2021.

Scientific articles

Author name(s) in uppercase, first name(s) in lowercase.

Article title in quotation marks.

Journal title in italics or underlined.

Volume, number and pages of article.

Example: NAME, First name. "Title of article". Scientific journal, vol. 10, no. 2, pp. 45-60.

Communications in a conference

Author name(s) in uppercase, first name(s) in lowercase.

Title of communication in quotation marks.

Conference name in italics or underlined.

Place and date of conference.

Example: MARTIN, Pierre. "Title of paper". Proceedings of the International Congress, Paris, July 15-17, 2022.

Thesis, dissertations

Author(s) name(s) in uppercase, first name(s) in lowercase.

Title of thesis or dissertation in italics or underlined.

Type of document (doctoral thesis, master's dissertation, etc.).

Name of university, year of defense.

Example: LEBLANC, Sophie. *Thesis title*. Doctoral thesis, University X, 2020.

Website

Name of author(s) or organization responsible, Year of publication or update, Title of page or article, Title of website, URL (web address), Access date (optional).

Example: Smith, John (2022). The effects of climate change on marine biodiversity. Marine Environment Research Institute, https://www.exemple.org/biodiversite-marine, Accessed July 15, 2023.

5.3. Citation of sources

Citing sources in a research paper is essential for several reasons:

- Citing sources is a legal obligation, and failure to do so is tantamount to plagiarism.
- Citing one's sources involves formatting various elements that describe the intellectual and material aspects of the document used or the author cited.
- Out of respect for copyright,
- For the intellectual enrichment of the person reading my work,
- To allow the reader to verify the relevance of my work,
- To enable the reader to easily identify the sources and find the reference you have used[14].

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[14] https://tutos.bu.univ-rennes2.fr/c.php?g=686267&p=4922239

Part II: Thesis plan

1. Outline and stages of the master's thesis

Title Page → **Signature Page** → **Abstract** → **Table of Contents** →

→ **Introduction** → **Paper Body** → **Conclusion** → **References**

1.1. Identify and define the subject (Summary)

To effectively identify and delimit the subject of the dissertation through the abstract, follow these steps:
- Analyze the topic and determine its key dimensions.
- Research relevant sources and determine the main ideas.
- Synthesize the main elements into a concise summary,
- Refinement of the abstract to clearly reflect the central aspects of the research,
- Limitation of the topic according to the summary.

1.2. Problematic and objectives of the thesis

The following steps aim at determining the master's thesis problem[15]:
- Analysis of the field of study and identification of gaps in existing research,
- Reflection on the author's personal interests and motivations in the field,
- Identification of the specific subject on which the author wishes to focus,
- Formulation of a clear and precise research question,
- Exploration of existing research,
- Refinement of the problem and objectives based on insights gained from the literature review,
- Delimitation of the problem and objectives in terms of geographical, temporal, theoretical or methodological scope,
- Consultation with the supervisor for further advice,

Other elements that can help determine objectives include
- Reflection on expected results,
- Clarity, achievability and relevance of objectives,
- Definition of success criteria.

1.3. Other useful sections

Other sections of the master's thesis require techniques for writing them

Acknowledgements

Consider the following when writing your acknowledgements:

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[15] https://www.projectguru.in/difference-between-thesis-objectives-and-research-questions/

- Thank the people, institutions or organizations that have supported the work,

- Describe the specific contributions of each person,

- Use of a formal, respectful tone.

The table of abbreviations and acronyms

The table of abbreviations and acronyms in a master's thesis must list all the terms used, organize them alphabetically, provide their full expansion, use a consistent layout, check for completeness, and be placed in the preliminary pages of the thesis.

1.4. The introduction

The general introduction is a crucial section, playing a vital role in presenting the background, research problem, relevance, methodology, and thesis outline (Figure 6). Key considerations within this introductory framework include the presentation of the general context in the field of study, highlighting the subject's importance. This is followed by the identification of the specific problem, question, or research objective to be studied. Furthermore, the introduction explains the research's relevance and its contribution to the broader field of study. It also offers an overview of the approach used in the research and outlines the general structure of the dissertation, indicating different parts or chapters. Collectively, these components establish the foundation for a comprehensive and well-structured introduction to the research endeavor.
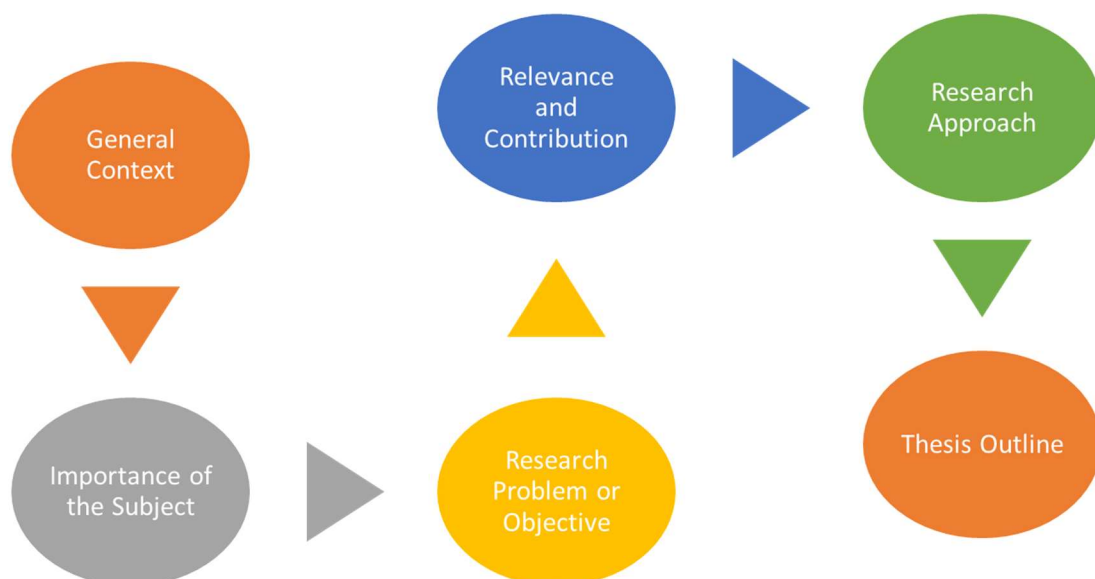
Figure 6- Sections of the general introduction

1.5. State of the literature

The state-of-the-literature section of a master's thesis involves an in-depth demonstration of the subject, a critical analysis of existing work, and an identification of research opportunities. Writing this section entails several steps, including defining the field of research, conducting in-depth research, organizing and analyzing sources, identifying gaps and unresolved problems, drawing up a coherent synthesis, and establishing links with existing research (Figure 7).

Figure 7- State of the Literature in a Master's Thesis

1.6. Hypothesis formulation

When formulating hypotheses, it is essential to base them on existing literature, to be clear and precise, to use conditional terms, to align assumptions with research objectives, to write them logically, and to be open to unexpected results.

1.7. Methodology

The Methodology section explains how to conduct research according to key points[16]:

- Presentation of the general methodology used in the research,
- Description and explanation of the sample studied and its selection,
- Explanation of data collection methods,

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[16] https://library.tiffin.edu/researchmethodologies/whatareresearchmethods

- Description of data processing and analysis methods,

- Discussion of measures to ensure the validity and reliability of the research results,

- Identification of methodological limitations and constraints encountered,

- Highlighting the ethical considerations taken into account during the research.

1.8. Results

The "Results" section presents the results of the research in a clear and objective way, in close connection with the research problem, respecting the following points:

- Clear, organized structure,

- Use of graphs and tables to represent data,

- Presentation of data.

1.9. Discussion

The "Discussion" section is used to interpret and analyze the results obtained, and to put them into perspective with the existing literature. Here are the key points to consider when writing[17]:

- Summary of the main results, which must be consistent with the stated objectives,

- Interpretation of results and how they relate to research objectives,

- Comparison of results with existing literature and discussion of limitations,

- Response to the research problem,

- Opening up to new questions,

- Conclusion underlining the importance of the results.

1.10. Recommendations

The following points should be borne in mind when writing the "Recommendations" section[18]:

- Concise reminder of the research problem and the results obtained,

- Identification of gaps or unmet needs in the literature,

- Formulation of specific, practical recommendations related to these gaps,

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[17] https://www.scribbr.com/dissertation/discussion/
[18] https://www.scribbr.com/dissertation/recommendations-in-research/

- Justification of recommendations using sound arguments to ensure their applicability,

- Summary of the main recommendations and their importance for the field of study, extending the reflection towards future perspectives and promising areas of research.

1.11. Conclusion and perspectives

The conclusion

The "conclusion" section summarizes the main findings and contributions of the research. It covers the following elements[19]:

- Summary of the results obtained in the study and explanation of their practical implications,

- Response to the research problem,

- Highlighting the research's contributions,

- Presentation of the study's limitations.

Perspectives

The "Perspectives" section proposes directions and avenues for future research, and includes these elements:

- Proposals for new research questions,

- Proposals for new methodological approaches,

- Exploration of new perspectives,

- Proposals for future research into practical applications.

1.12. Table of contents

Establishing a table of contents involves identifying the main parts of the dissertation, subdividing them into sub-sections or chapters and numbering them in a hierarchical order. It plays a crucial role in enabling readers to navigate easily through the document, reflecting its logical structure. Figure 8 demonstrates the automatic setup process in Microsoft Word by following the steps below[20]:

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[19] https://www.enago.com/thesis-editing/blog/writing-your-thesis-conclusion-section-making-last-impression-count

[20] https://www.apaword.com/table-of-contents-in-apa-format.html

- Use title styles for each section of the document,

- Place the cursor where you wish to insert the table of contents,

- Access the "References" tab by clicking on "Table of contents"

- Select the desired table of contents style,

- Word will automatically generate the table of contents according to the title styles and update it as the document is modified.
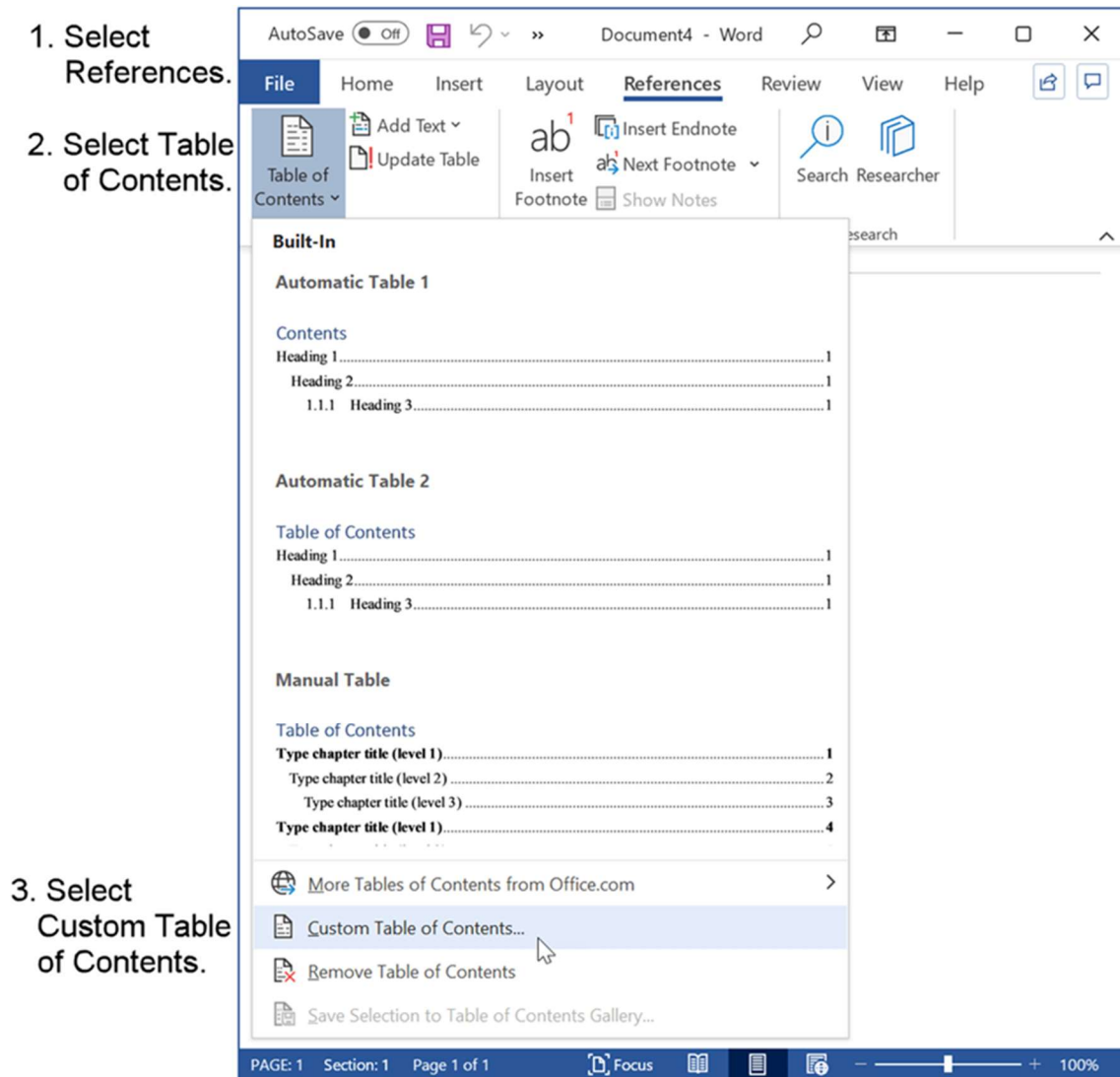

Figure 8- The automatic setup process for creating a table of contents in Microsoft Word

1.13. Bibliography

To create the "Bibliography" section, you need to (a) collect the sources, and (b) use them in alphabetical order or according to a specific citation method, (c) include

complete bibliographical information, and (d) check their accuracy. Software programs are available to generate bibliographies automatically[21]:

- Microsoft Word: Built-in features for managing citations and bibliographies.
- Zotero: Free, open-source software for collecting, organizing and generating citations and bibliographies.
- Mendeley: Popular reference management software, with features for collecting, organizing and generating citations and bibliographies.
- EndNote: Paid software for managing bibliographic references, enabling the collection, organization and generation of citations and bibliographies.
- RefWorks: Pay-per-use software for managing bibliographic references, with features similar to those of the other software packages mentioned.

1.14. The appendices

The introduction to the appendices should be placed at the end of the document, after the conclusion or the bibliographical references section. Each appendix should have a clear title and number. In the text, annexes should be referred to by title and number. Appendices can contain different types of material, such as questionnaires, graphs, data tables, etc. It is important to organize appendices logically and to follow a consistent layout. A table of appendices can be added to facilitate navigation through the document[22].

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[21] https://www.g2.com/categories/reference-management
[22] https://libguides.usc.edu/writingguide/appendices

2. Writing techniques and standards

The "Writing Techniques and Standards" chapter deals with aspects that ensure the coherence and quality of academic dissertation writing.

2.1. The formatting

To ensure proper formatting, you should follow the following steps[23]:

- Use a legible, professional 12-point font,

- Use of balanced margins and spacing between paragraphs,

- Structuring the dissertation with clear headings and subheadings,

- Page numbering and addition of a header or footer,

- Insertion of tables, graphs, and illustrations with numbered captions,

- Adoption of citation and referencing rules using a specific style.

2.2. The cover page

The cover page of a master's thesis generally includes the following information: thesis title, author's name, institutional affiliation, institutional logo (as required), date, or academic year. Take into consideration the guidelines of your institute or university.

2.3. Typography and punctuation

Typography involves the appropriate use of fonts, font sizes, and text formatting (see 2.1: Formatting). Punctuation rules make reading easier by marking pauses and separations between sentences and ideas.

2.4. Scientific writing

Writing in the academic and scientific context refers to the clear and precise written expression of ideas, concepts, and research results. The following are some points to consider[24]:

- Use of a formal, objective style, avoiding colloquial language, subjective expressions and personal opinions

- Respect for grammatical rules,

- Organization of sentences in a clear and logical manner, ensuring that ideas are coherent.

- Respect for academic citation rules

- Proofreading and correction.

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[23] https://besteditproof.com/en/academy/how-to-layout-and-format-a-dissertation-10-tips
[24] https://scitechedit.com/18-tips-to-improve-your-science-writing/

2.5. The spelling

It's important to have correct spelling and a good command of the language. You need to know the rules of spelling. Regularly read academic texts and check your dissertation to avoid errors.

2.6. Save, secure and archive data

To save, secure, and archive data, you need to take the following steps[25]:

- Regular saving of data and files on external supports or cloud services,

- Using secure storage solutions and protecting data with strong passwords,

- Organizing data in a clear folder structure,

- Verification of data integrity before archiving,

- Creation of complete backup copies of all data after completion of each step.

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[25] https://www.freeitdata.com/5-steps-to-crafting-a-data-archiving-strategy/

3. Workshop: Critical study of a manuscript
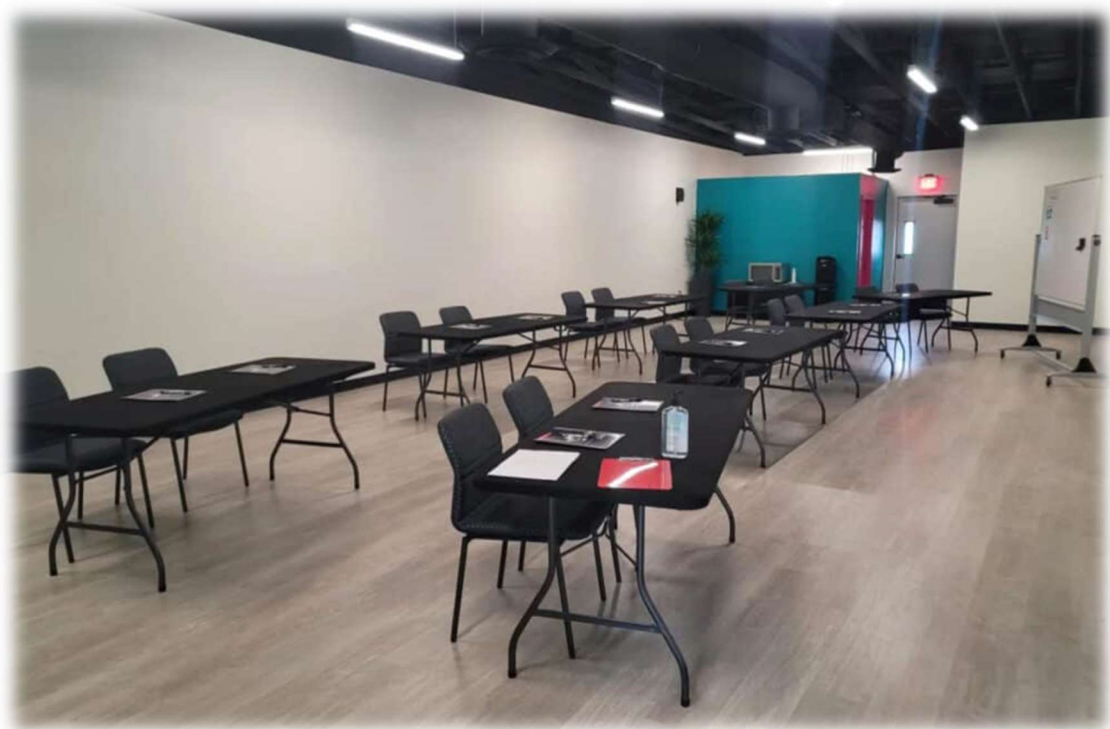
The workshop on the critical study of a master's thesis will focus on the following points:

- The focus of the workshop on the critical study of a master's thesis will be on these points:

- Careful reading and note-taking

- Evaluation of the methodology used

- Analysis of the results presented

- Evaluation of the logic and strength of arguments

- Critical reflection on the strengths and weaknesses of the study

- Contextualization in existing literature

- Formulation of an overall assessment of the dissertation

- Suggest constructive improvements

- Write a constructive, well-argued critique.

4. Oral presentations and defense

This chapter provides tips for successful oral presentations during the defense of a master's thesis. It covers aspects such as preparation, effective communication, time management, and the use of visual support. It also suggests strategies for dealing with stress and answering questions posed by the jury.

4.1. Poster presentation

It is possible to use several software programs and techniques to produce a poster[26]:

Software

- Microsoft PowerPoint offers layout and design features to create an attractive poster.
- Adobe Illustrator is graphic design software for creating high-quality posters with complex visual elements. It offers numerous customization options and great flexibility.
- Canva: This user-friendly online tool offers predefined poster templates and a variety of customization options.

Techniques

- Use a clear, organized layout with well-defined sections to facilitate reading and comprehension (Figure 9)[27].
- Choice of an appropriate color scheme and use of legible fonts to ensure good visibility
- Use of images, graphs and tables to illustrate results
- The information presented should be concise and clear
- Creation of visual elements that make the poster eye-catching.

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[26] https://researchguides.library.tufts.edu/c.php?g=344931&p=4852398
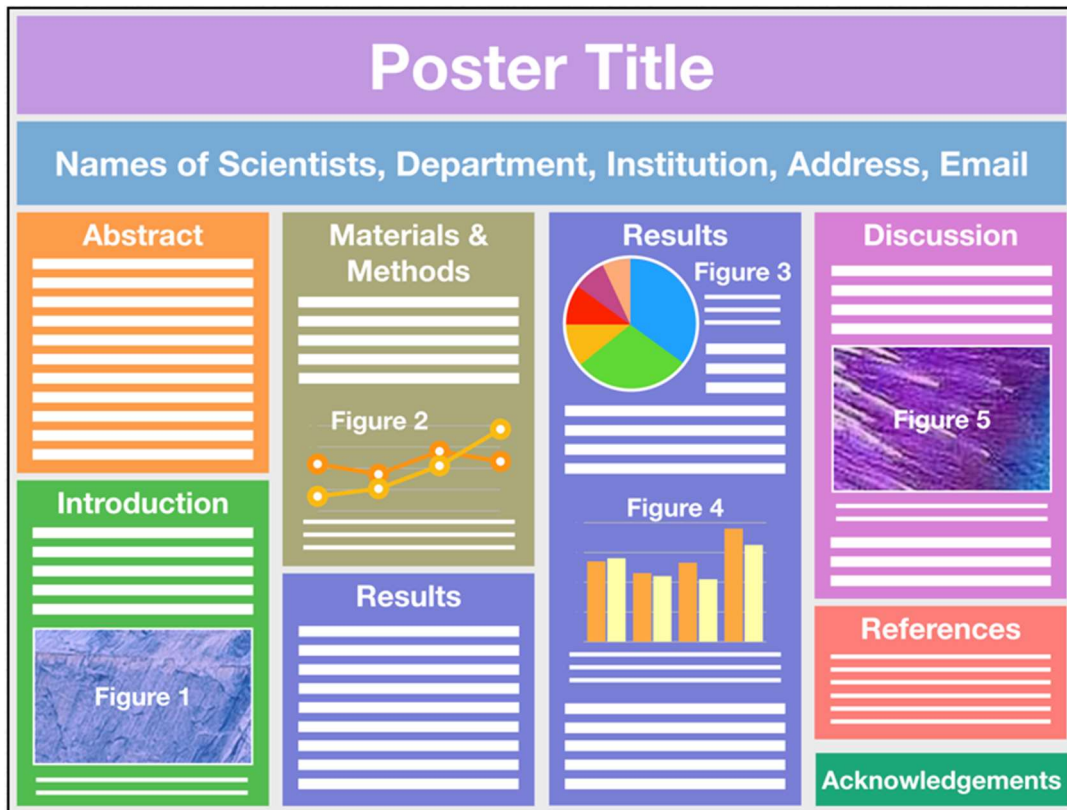[27] https://ohiostate.pressbooks.pub/scientificposterguide/chapter/scientific-posters/

Figure 9- Sections of a scientific poster

4.2. Presenting an oral communication

To make a successful oral presentation, you need to structure your speech using appropriate visual aids. Adapt your language to the audience and keep to the time limit. Answer questions clearly, using relevant examples to engage the audience[28].

Presentation structure

Introduction

- Presentation of the subject and its importance,
- Research objectives,
- Theoretical and methodological background.

Literature review

- Presentation of relevant previous work,
- Identification of gaps in the existing literature.

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[28] https://boisestate.pressbooks.pub/anintroductiontotechnicalcommunication/chapter/chapter-16-oral-presentations/

Methodology

- Description of the research methods used,

- Explanation of data collection and analysis.

Results

- Presentation of the main results obtained,

- Use of graphs, tables, or other visual support to illustrate results.

Discussion

- Analysis and interpretation of results,

- Comparison with previous work,

- Discussion of the implications and limitations of the study.

Conclusion

- Summary of main research findings,

- Meeting the research objectives,

- Suggestions for future research.

Questions and answers

- Answer questions from the jury or audience,

- Deepen certain aspects of the research if necessary.

4.3. Thesis defense

Preparing a dissertation defense requires proper planning and preparation, as follows[29]:

- Analysis the content of the dissertation to identify and highlight key points for the presentation.

- Structure the presentation by introducing the subject, objectives, methodology, results, and conclusions.

- Prepare visual support, such as slides, to accompany the presentation

- Anticipate potential questions from the jury and prepare appropriate answers.

- Familiarize yourself with the presentation venue and test equipment in advance.

- Manage stress by resting and using relaxation techniques.

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[29] https://besteditproof.com/en/academy/how-to-prepare-for-your-dissertation-defense-6-steps

5. How to avoid plagiarism?

To avoid plagiarism of formulas, phrases, illustrations, graphs, data and statistics, it is important to respect the following ethical research rules[30]:

5.1. The citations

The introduction of the citation in the text depends on the style used and its insertion mode:

- Direct citation: Introduction of the citation by mentioning the author and the work title, then placing the citation in quotation marks.
- Paraphrase: Summary of the author's ideas; in other words, introducing the citation with the author's name and year of publication.
- Indirect citation: mention of the author's name and year of publication without using the author's exact words.
- Multiple author citation: Inclusion of all authors when introducing the citation, using "et al." if necessary.
- No introduction: Insertion of the quotation in quotation marks without an explicit introduction, providing a complete reference at the end of the document.

5.2. Paraphrasing

Paraphrasing involves expressing ideas, information, or content of a source using one's own words and sentence structure, while preserving the meaning and intention of the original author. The aim is to reformulate the text in such a way as to avoid plagiarism while making the information accessible and understandable. Paraphrasing is a technique commonly used to integrate the ideas of other authors into an academic or research work, while acknowledging the original source.

Examples of paraphrases:

- Original source: "Climate change is causing disturbances in marine ecosystems."
  Paraphrase: Marine ecosystems are being disrupted by climate change.
- Original source: "Education is the key to economic and social development."

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[30] https://ori.hhs.gov/28-guidelines-glance-avoiding-plagiarism

Paraphrase: Economic and social development depends in large part on access to quality education.

- Original source: "Excessive use of social media can lead to mental health problems in young people."

Paraphrase: Young people may face mental health problems due to excessive use of social media platforms.

- Original source: "Studies show that regular exercise reduces the risk of cardiovascular disease."

Paraphrase: Research has shown that regular physical activity reduces the likelihood of developing cardiovascular disease.

5.3. Complete bibliographical reference

To avoid plagiarism, sources must be fully referenced, including authors' names, year of publication, title of book or article, and specific information such as page or volume numbers. For online sources, it is necessary to include the full URL, or DOI. It is also essential to respect the appropriate citation standards.

Examples of full bibliographic reference indications for different types of sources:

Book

Name of author(s), year of publication, book title in italics, place of publication, publishing house.

Example: Smith, J. (2019). Master's thesis: A practical guide. Paris : Éditions XYZ.

Journal article

Name of author(s), year of publication, title of article in quotation marks, title of journal in italics, volume(issue), pages.

Example: Johnson, A., & Davis, B. (2020). "The impact of technology on learning." Revue de Pédagogie, 25(2), 45-60.

Book chapter

Name of author(s), year of publication, chapter title in quotation marks, name(s) of book publisher(s) (Ed.), book title in italics, chapter pages.

Example: Brown, M. (2018). "The role of education in modern society." In S. Wilson (Ed.), Education in the 21st century (pp. 67-85). Paris : Éditions ABC.

Website

Name of author(s) or organization, year of publication or update, title of page or article in quotation marks, name of website in italics, complete URL.

Example: World Health Organization. (2021). "COVID-19: Tips for prevention." WHO. Retrieved from https://www.who.int/fr/prevention-covid-19.

Conclusion

In conclusion, this course handout on literature research and thesis plan has covered various aspects crucial to developing an academic research project. It covered the key stages of literature search, from formulating the starting question to writing the bibliography. In addition, it explored the principles of writing and presenting a dissertation, as well as citation techniques to avoid plagiarism. Finally, it covered, topics such as oral presentations, defenses and data management. The main aim of this handbook is to equip students with the knowledge and skills required for research projects. By combining literature search methods with proper writing and presentation, students will be better prepared to undertake and successfully complete their Master's thesis.

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