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Mohamed Seddik Ben Yahia University – Jijel  
Faculty of Sciences and Technologies  
Department of Fundamental Studies in Sciences and Technologies

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# *Writing Methodology*

Course handout

*Dr. I.M. ASSABA*  
*Lecturer*

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# *Table of contents*

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Table of contents	
List of figures	
List of tables	
General Introduction .....	1
<b>Chapter I: Basics and generalities of writing techniques</b>	
I.1. Chapter Objectives.....	3
I.2. Definitions.....	3
a. The abstract .....	3
b. The letter .....	3
c. The report .....	3
d. The Curriculum Vitae (CV) .....	3
e. The Cover Letter .....	3
f. The difference between a cover letter and a CV .....	4
I.3. Writing standards.....	4
a. Keys to a High-Quality Scientific Writing Style.....	4
b. How to present of a written work? .....	4
I.4. Applications .....	5
a. Writing an abstract (summary) .....	5
b. Writing an official letter -paper version- .....	6
1. Text layout .....	7
2. The body of the letter .....	8
c. Writing an official letter -electronic version-.....	11
d. Writing a Curriculum Vitae (CV) .....	11
1. Tips to Ensure Your CV Will Be Read .....	11
2. Sections of a CV .....	12
<b>Chapter II: Information research, synthesis and exploitation</b>	
II.1. Chapter Objectives .....	14
II.2. Documentary research .....	14
II.3. Searching for information on the library .....	15
a. Research through electronic catalogs .....	16
b. Research through Databanks.....	16
II.4. Searching for information on the internet (web) .....	16

a. Search engines and databases for scientific and academic search information .....	16
b. Various information search engines.....	17
II.5. Search techniques .....	17
a. Boolean search operators.....	17
b. Other search operators .....	18
<b>Chapter III: Writing techniques and procedures</b>	
III.1. Chapter Objectives .....	20
III.2. Basic writing guidelines .....	20
a. Punctuation.....	20
b. Syntax .....	22
c. Paragraph division.....	23
d. Readability .....	23
e. The objectivity and the use of a neutral style.....	23
f. Intellectual accuracy.....	24
III.3. Plagiarism .....	24
a. How to avoid plagiarism .....	24
b. What is a bibliography? .....	24
c. The reason why we have to cite a bibliography.....	25
d. How to cite bibliographic references? .....	25
<b>Chapter IV: Writing a report</b>	
IV.1. Chapter Objectives .....	27
IV.2. General structure of a report.....	27
IV.3. Cover page.....	27
IV.4 Abstract .....	29
IV.5 Table of contents (Summary) .....	29
IV.6. Introduction .....	30
IV.7. Development.....	30
a. Materials and Methods .....	30
b. Results and discussion .....	30
IV.8. Conclusion.....	31
IV.9. Appendices .....	31
IV.10. Bibliography .....	32
IV.11. Dedication .....	32
IV.12. Acknowledgements .....	32
IV.13. List of tables and/or figures .....	32
<b>References</b> .....	34

---

## *List of figures*

---

<b>Figure I.1.</b> General format of the official letter.....	9
<b>Figure I.2.</b> Examples of a Beginner's CV .....	<b>Error! Bookmark not defined.</b>
<b>Figure IV.1.</b> Cover page sample .....	28
<b>Figure IV.2.</b> Table of contents sample .....	29
<b>Figure IV.3.</b> List of tables/figures sample .....	<b>Error! Bookmark not defined.</b>

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## *List of tables*

---

<b>Table I.1.</b> Sets out the main rules for writing and arranging the text within the official letter..	7
<b>Table II.1.</b> Documentation/ information sources and related document types. ....	<b>Error! Bookmark not defined.</b>

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# *General Introduction*

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Throughout their university career, first-year Science and Technology students are periodically asked to produce a variety of written works, both scientific (practical work reports, internship reports, dissertations, scientific articles, theses, etc.) and administrative (letters, applications, etc.).

Writing is often not very complex, but it does involve planning, documentary research and synthesis, which require concentration and, particularly, reflection efforts. The aim of this course is to provide the student with a number of recommendations to follow in order to help them write written work.

Our proposed pedagogical and teaching handout is set within this context, and will be structured around four chapters:

## ***Chapter I: Basics and generalities of writing techniques***

The first chapter of this course is devoted to a fairly general presentation of the techniques and standards to be adopted when writing, with an application to the abstract and the official letter.

## ***Chapter II: Information research, synthesis and exploitation***

In the second chapter, we describe the different techniques of bibliographic research in terms of document search methodology. We explain the two main sources for a complete information research, which are the classical paper library and the more modern one, the online or electronic library (on the Internet network).

## ***Chapter III: Writing techniques and procedures***

Chapter 3 is devoted to writing techniques and procedures, including punctuation, syntax and sentences. We'll discuss sentences length and paragraphing; the style used in scientific writing, objectivity and intellectual rigor. We'll also explain how to synthesize the information you're looking for, and how to exploit it in a personalized work in terms of bibliographic citations.

#### ***Chapter IV: Writing a report***

Chapter 4 is dedicated, mainly, to the way and the methodology of writing a report. We'll explain the conventional structure of a report with all its components, including cover page, summary, introduction, method, results, discussion section, conclusion, bibliography (references/citations), appendices and finally the abstract with keywords.

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## *Chapter I*

# *Basics and generalities of writing techniques*

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## **Chapter I: Basics and generalities of writing techniques**

### **I.1. Chapter Objectives**

At the end of this chapter, the student should:

- ✓ Acquire general knowledge and basic concepts on writing techniques and standards.
- ✓ Learn to define and differentiate various types of documents such as abstracts, official letters, CV, Cover letter and reports.
- ✓ Master the writing of the abstract and the official letter while using the learned writing techniques.

### **I.2. Definitions**

#### **a. The abstract**

An abstract is generally a short text or a simplified reformulation of the main ideas of a text (dissertation, thesis, scientific article, book... or any other document) in just one or more paragraphs, within a set number of words. In the abstract, ideas are presented in the same order as in the primary text.

#### **b. The letter**

A letter is a written document sent by a person to a public or private service or administration (known as an administrative or official letter); or to a close person (relatives, friends, etc.) (Known as an ordinary or unofficial letter). In the ordinary letter, you are free in how to write, unlike the official letter, which is subject to strict rules of writing.

#### **c. The report**

A detailed report is an informative and rigorous written document, summarizing the outcome of a meeting or event, and describing the results of a scientific experiment or research in the practical work (reports required to students), while respecting a precise writing code based on scientific ethics (Chapter 4). This type of document enables anyone concerned to learn about the subject of the report, without having attended the related event.

#### **d. The Curriculum Vitae (CV)**

It is a document that lists a person's educational background and professional experiences. It is mainly used while submitting a job application.

#### **e. The Cover Letter**

It is a letter that an applicant writes to a potential employer outlining their reasons and motivation for applying for a job, training, internship, or other program. It often comes with



the CV and gives the applicant a chance to discuss why they think they would be a good fit for the job or program.

**f. The difference between a cover letter and a CV**

- **CV:** Highlights previous achievements and professional background.
- **Cover Letter:** Future-oriented, in which the applicant explains why they are motivated to apply for the position.

### **I.3. Writing standards**

**a. Keys to a High-Quality Scientific Writing Style**

Writing style can be defined as a way of using language as a means of expression. To acquire a quality writing style, there are some guidelines to follow. Among them:

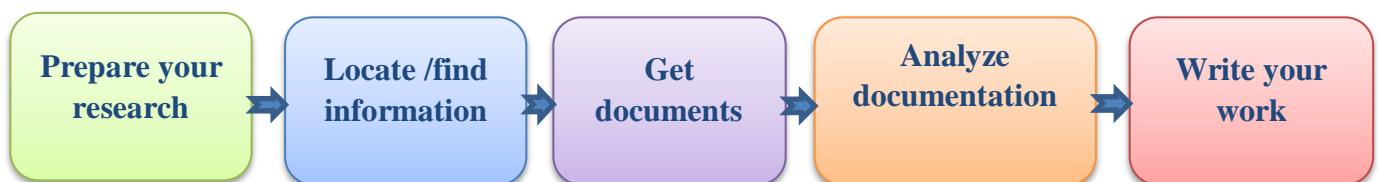
- ✓ **Vocabulary:** make the right choice of vocabulary, which should be precise, using simple, easy-to-understand words with a proper meaning.
- ✓ **Clarity of thinking:** ideas should be clear and well-structured. A single paragraph should express a single key idea. Link paragraphs according to the order of ideas.
- ✓ **Readability:** respecting spelling codes and handwriting quality to ensure the readability.
- ✓ **Punctuation:** punctuation gives rhythm to the sentence, suggests intonation, reflects nuances of thought and simplifies reading.
- ✓ **Harmony:** use short, smooth sentences and avoid repetition.
- ✓ **Originality:** Bringing out the author's stamp and personality. The author should have his own unique style (NO copy / paste).

**b. How to present of a written work?**

In order to present a written text properly, it is strongly recommended to follow certain basic rules, which are set out as follows:

- ✓ The text must be typed using computer software (Word, Latex). The layout must take into account the choice of margins, font and character size, numbering (headings, subheadings and text), colors, underlining, line spacing, text alignment, etc.
- ✓ Think about the structure of your work before you start writing. Ask yourself the right questions: what is the purpose of my work? What do I want to achieve? By what means? What documentation do I need?

- ✓ When working on a scientific or technical writing project (dissertation, thesis, report...), it is essential to :
  - Highlight the problems faced, the approach adopted and the results obtained.
  - Be clear and concise, particularly in the introduction, conclusion and abstract.
  - Write a concise introduction setting out the context, the aims of the work and the plan for the rest of the document.
  - Discuss and interpret the significance of the obtained results.
  - Write a concise conclusion that shows clearly whether the initial objectives of the work have been achieved.
  - Do not forget to mention quotations and bibliographical references, thus avoiding appropriating the others work, ideas and words, which is known as "plagiarism".
- ✓ The overall presentation of the written work should be well-organized: sufficient spacing, chapter headings, table of contents and annexes, etc., should be highlighted.



## I.4. Applications

### a. Writing an abstract (summary)

An abstract is not a cutting-up of the text into paragraphs; it highlights the major information (main ideas) of a text more briefly, within a set number of words. In other words, it seeks to report the most essential points of a text. Summarizing requires two important qualities: clarity of thinking and precision of expression (comprehensive sense).

Abstract is made up of five main parts:

- ✓ **Objective:** this section briefly presents the studied topic and the problem encountered.
- ✓ **Materials and methods:** this section describes the equipment and methodology used to solve the problem. Experimental details should be avoided.
- ✓ **Results:** the main results obtained are discussed. Mention the particularity of the result and compare it with other work results (if necessary).
- ✓ **Conclusion:** this final section should set out the main conclusions and respond to the problem in question.

- ✓ **Keywords:** a list of words (five to six words approximately) that reflect the topic of the text.

### **Abstract sample**

The aim of this study is to develop and characterize new materials type hydrotalcite of M-Al formulation (M = Ni, Zn, Mg, Co, Ca, Ba, Cu). In a first step, the M-Al systems were synthesized via the co-precipitation method using nitrates as starting salts and NaOH as a precipitating agent at a precise pH. The second part of this work is devoted to the characterization of the synthesized materials. Several physicochemical techniques have been used for the determination of thermal, structural and textural properties, namely ATG-ATD, DRX and FTIR. XRD and FTIR analysis of the prepared phases confirmed the presence of the characteristic HDL lines only for the Mg-Al, Ni-Al, Zn-Al and Co-Al formulations. ATG-ATD analysis showed a mass loss around 37-41%. The results obtained confirm that the hydrotalcite structure is only observed for the metals Ni, Zn, Mg and Co.

**Keywords:** Hydrotalcite, Aluminium, Coprecipitation, Characterization.

### **b. Writing an official letter -paper version-**

The official letter is the indispensable tool in professional, commercial or administrative communications. This type of letter is a commitment of the author, and can have major consequences for the recipient. For this reason, it is highly codified in both form and content. It must be short, precise and courteous.

## 1. Text layout

**Table I.1** sets out the main rules for writing and arranging the text within the official letter.

Components	Rules	Place of components
Paper format	A4 (21 cm x 29,7 cm) ; white paper without line	
Text font	Classic fonts (Arial, Times New Roman...)	
Font size	12 for the body text  Larger size for titles and subtitles	
Sender's details	Mr, Mrs, followed by first and last name, company (position), address, zip code, phone number and/or e-mail address	At the Top, left
Recipient details	Mr, Mrs, followed by first and last name, company (position), address, zip code, telephone number and/or e-mail address	At the Top, left  Bellow the date
Date  ( <u>An undated letter is not legally considered an official letter</u> )	For example, February 10, 2023	At the top, left
Margin	(2,5 to 4 cm) for upper, lower or lateral margins.	
Interlining	(1 to 2 to 3 cm)	
Signature  ( <u>An unsigned letter is not considered legal and may be rejected</u> )	Have a large space  Title of signatory/ his last Name / signature	At the bottom, left
Several pages	<b>Ellipsis</b> to indicate passage to next page: ex: (...2) or (..../2)  Number the Next page	In the bottom right-hand corner of the first page.  At the top, in the middle
Attachement(s)  indicate that the envelope contains one or more documents attached to the letter	Mentioned, preceded by initials (ex: <b>Atts.: CV, certificates, etc.</b> )	At the bottom of the first page

<p>The call (recipient title must be specified)</p> <p><u>The call is always followed by a dot</u></p>	<p>- Mr. (men), Ms. (women), (when the recipient's function is unknown).</p> <p>-President, , Mayor, Dr. (doctor), Pr.(professor)</p> <p>- Maitre (Lawyer, Notary)</p> <p>- His Excellency (Ambassador, minister...)</p>	
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## 2. The body of the letter

The body of the letter contains mainly the message you wish to communicate. It allows you to clearly outline your main points and professionally express your concerns, opinions, or any other relevant information to the recipient. It generally consists of three parts: the introduction, development and conclusion.

- ✓ **The introduction or the opening paragraph:** Directly sets out the subject or purpose of the letter. The most common expressions used to begin a letter introduction:

To Whom It May Concern, / Dear Mr. Anybody,

*I am pleased to inform you that...*

*I am honored and delighted to ...*

*I am deeply honored and humbled to ....*

- ✓ **Development:** In the development section, you include details that support your first statement. Each new idea should be the subject of a separate paragraph.
- ✓ **The conclusion:** If the letter is long, the conclusion should be the subject of a separate paragraph, before the salutation. And if the letter is short, the greetings can serve as the conclusion.
- ✓ **Greetings:** The salutation or courtesy is the polite wording at the end of a letter. Like the call, it varies according to the relationship between the correspondents. The simplest and most useful:
  - Thank you for your assistance in this matter,
  - Thank you for your consideration,
  - Thank you for your recommendation,

- Sincerely,
- Regards,
- Yours truly,
- Yours sincerely,
- Best regards,
- Cordially,
- Yours respectfully,

<b>Date</b>	February 1, 20XX
<b>Name and address</b>	Deborah Jones ABC Company, Inc. 1234 East Main Street San Diego, CA 92101
<b>Greeting</b>	Dear Ms. Jones,
<b>Opening paragraph</b>	I am submitting this request for a leave of absence to tend to important personal matters beginning next month. If possible, I would like to take my leave beginning March 15 and return to the office April 3, 20XX.
<b>Closing paragraph</b>	I can make myself available intermittently to answer questions via phone or email, and am happy to do whatever necessary to ensure a smooth transition before my leave begins.
<b>Complimentary close and signature</b>	Thank you for your consideration.  Sincerely, Johanna Jansen

**Figure I.1.** General format of the official letter

## ❖ **Sample of an official letter**

Sender's details: first and last name,

Company (position),

Address, zip code,

Phone number and/or e-mail address\*

Date: February 10, 2023

Recipient details: first and last name,

Company (position),

Address, zip code,

Telephone number and/or e-mail address

Dear Dr. Jones,

I'm pleased to inform you of my intention to apply for the open Erasmus program for the academic year 2023-2024.

I am currently enrolled in a Master II program, Science and Technology, at the University of Jijel. This scholarship will enable me to carry out my end-of-study research project in best conditions.

Please find attached to this letter all the documents justifying the criteria for obtaining this scholarship.

Thank you for your consideration,

Sincerely,

First name, last name

Signature.

Atts: CV, certificates, motivation letter

### **c. Writing an official letter -electronic version-**

We've gone previously, into detail about how to write and send a conventional letter - paper version-. However, the most popular method used in correspondence exchange, nowadays, is through electronic mail (e-mail). This method has many time-saving advantages, such as the ability to transmit messages in a very short lapse of time (just few seconds), the possibility of communicating in real or delayed time (24 hours a day) and the flexibility of selective or very wide diffusion according to the sender's wishes, at a relatively low cost.

Nevertheless, the electronic letter is also subject to specific writing rules. Here are the main ones:

- ✓ Prepare the letter in a separate file (MS-office, Latex, or other data-entry software).
- ✓ In order to prevent the letter from being altered after sending and while arrival at the recipient, it should be converted into a non-editable text format (Portable Document File - PDF), which is a data format readable by all operating systems (Windows, Linux, Mac).
- ✓ Avoid writing the letter, directly, in the e-mail massaging space for the following reasons:
  - Risk of accidentally sending unfinished text.
  - Risk of letter format changing during transmission between sender and recipient.
  - Confidentiality and security communication issues.

### **d. Writing a Curriculum Vitae (CV)**

Having a good CV is often the key to securing an interview. It deserves your time and effort in preparation. A CV should answer the following questions:

- ✓ What do you want to do?
- ✓ What can you bring to our company?
- ✓ Why are you qualified for the position?
- ✓ What have you done in the past that could be transferable?

#### **1. Tips to Ensure Your CV Will Be Read**

Do you know how much time a recruiter spends reading your CV? No more than 30 seconds initially. To be read, your CV must be:



- **Concise:** One page.
- **Clear:** Avoid abbreviations and overly trendy terms.
- **Precise:** Only include experiences and measurable results.
- **Easy to read:** Pay attention to the visual appearance of your CV.
- The CV must be typed and only printed on one side of an A4 sheet.
- Pay attention to spelling, grammar, and punctuation. Mistakes are viewed negatively!

## 2. Sections of a CV

**a. Title:** Clearly define your objective by giving your CV a specific title. Examples:  
Marketing Manager.

**b. Personal Details:**

- First name, last name, age, photo (optional).
- Address, phone number, fax number, email address.
- Marital status, military status.
- Nationality (if you have multiple nationalities, mention them).

**c. Academic Qualifications:**

- **Degrees obtained:** however, it's best to list only the most recent ones.
- If you have written a report, thesis, publications, patents, mention them with details about the subject and the number of pages.

**d. Professional Experiences:**

- **Internships:** If you are seeking your first job, internships are particularly important. Highlight them: mission, location, responsibilities, results, etc.
- If you have worked in a team, mention it (type of activity, number of people, tasks, etc.).
- **Previous jobs:** Specify the date, position held, company name, and location (postal code followed by the city name).

**e. Other:**

- **Computer skills, office software knowledge, equipment used:** list these if they are an added value for the job you're applying for.
- **Languages you speak:** Specify your level with terms like beginner, intermediate, fluent.
- **Interests:** If they reveal an active personality with a sense of responsibility.



*Figure I.2. Examples of a Beginner's CV*

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## *Chapter II*

# *Information research, synthesis and exploitation*

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## Chapter II: Information research, synthesis and exploitation

### II.1. Chapter Objectives

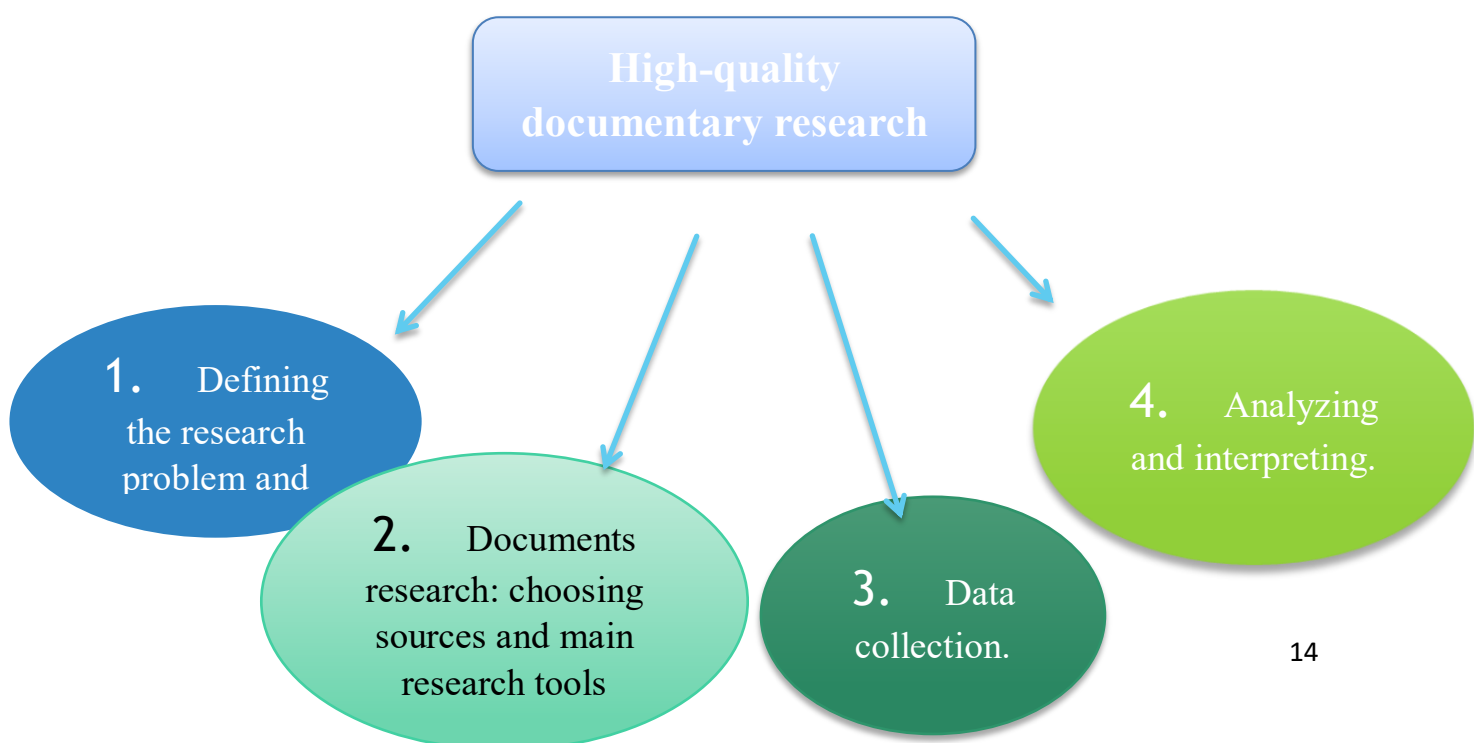
At the end of this chapter, the student should:

- ✓ Learn to conduct high-quality documentary research by utilizing all library resources, whether paper or electronic format.
- ✓ Become familiar with different search operators that facilitate documentary research.
- ✓ Use the various types of search operators and research techniques studied in their information finding process.

### II.2. Documentary research

In order to ensure that you find the right information you're looking for, a well-defined strategy should be adopted. The classical and logical approach for information seeking can be summed up in four steps:

1. Defining the problem and the objective of the research: analyzing the subject, defining the keywords and the precise terms on the subject in question and making a good combination.
2. Searching documents: choosing sources and the main research tools available in the library: paper format or on the Internet (see table II.1).
3. Data collection.
4. Analyszing and interpretation.



**Table II.1.** Documentation/ information sources and related document types.

Information Sources (Tools Types)		Documents types
Library	<b>Classic library –paper version-</b> Ex : Collections available in the university library,	- Dictionaries and encyclopedias - Books - Internship / training report - Thesis / dissertations - Maps, images... - Statistical data
	<b>Electronic support of the classic library</b> 1. Library catalogs 2. DataBank (ex :SNDL)	
On internet	1. Search engines et Databases 2. Directories, meta-engines...	- General information - Articles (newspapers, magazines) - Periodical/Scientific articles (Journals) - Proceedings of symposiums, congresses and seminars - Thesis / dissertations

- **Dictionaries and encyclopedias:** useful for understanding and clarifying the subject, especially when dealing with new concepts.
- **Books:** useful for deeper research.
- **Periodical/scientific articles on general topics or specialized:** help to keep up to date with the latest research results, findings or news on a particular topic.
- **Theses, dissertations, research reports:** of a high scientific level, they are appropriate for dealing with a highly specialized subject.

### II.3. Searching for information on the library

To support the research work of students, researchers and professors, the library is the ideal place to conduct documentary research, since it provides the best and the most reliable documents. Furthermore, university libraries currently offer a wide range of resources

accessible via the Internet. From catalogs to databanks, many library services can now be accessed remotely. Each library's website provides a detailed list of the online resources and services it offers, in addition to its catalog.

#### **a. Research through electronic catalogs**

Library catalogs contain lists of all the documents owned by a library, even if they are on loan, in processing or under order. The catalog also gives the precise location of each document in that library. Composed of two essential elements:

- The document **description**: title, author, year, etc.
- The document **location** in the library (the reference number).

#### **b. Research through Databanks**

Bibliographic databanks list all categories of bibliographic objects: books, collections, journals, articles, etc. They are the result of the digitalization of the library, and enable searches using only keywords (title, author, etc.).

#### **Example:**

- <https://www.sndl.cerist.dz/> : Algerian Databank

## **II.4. Searching for information on the internet (web)**

The Internet has become the primary place for documentary research and the most accessible tool for investigation, whatever the subject or field of specialization. It represents a digital information space, in which a considerable range of documentary resources circulate (general information, article summaries, electronic journals, books, databases, news, etc.). The resources are innumerable, but their quality varies considerably. Here are two categories of search engines.

#### **a. Search engines and databases for scientific and academic search information**

- Google Scholar (<http://scholar.google.com/>)
- Google Books (<http://books.google.com/>)
- Scopus Elsevier (<https://www.elsevier.com/fr-fr/solutions/scopus>)
- Web of Science (<https://access.clarivate.com/login>)
- Techniques de l'Ingénieur (<https://www.techniques-ingenieur.fr/>)
- These.fr ([www.theses.fr](http://www.theses.fr))

- Profusion Chimie (<http://www.profusion-chimie.lis.fr>)
- Université en ligne (<http://uel.unisciel.fr>)

#### **b. Various information search engines**

Google (USA), Bing (Microsoft), Yahoo (France), Baidu (China), Yandex (Russia)... are the real web archivists (classification and updating of information, search functionality offered). It's with this type of tool that you'll be able to explore the web most extensively and obtain the largest number of pages.

- **Disadvantages**

- The results you get are not always up to date.
- If your request isn't very specific, you may be given thousands of responses.

## **II.5. Search techniques**

Many search tools use Boolean grammar, invented by the English mathematician George Boole. A logical system that introduces operators and words like (AND, OR, NOT or AND NOT) used as conjunctions to combine or exclude keywords in a search, resulting in more focused and productive results. Using these operators can greatly reduce or expand the amount of results returned. Boolean operators help save time by refining searches to deliver more precise and relevant results while filtering out unsuitable or inappropriate ones. Today, we also use other operators (+, -, " ", ( ), ?, #, \*) and new functions.

#### **a. Boolean search operators**

❖ **AND, + :** Highly accurate research (Narrows the search).

- Will return pages where both words are present and not those with only one.
- Example: +tourism+venezuela (or tourism AND Venezuela). If one term is contained in the document (tourism) and the other (Venezuela) is not, the item is not included in the resulting list.

❖ **OR:** Very large search (Broadens the search).

- Brings up pages containing either one term or the other or both linked in this way.

- Example: a search on (Venezuela OR Brazil) results contains: documents containing the Venezuela (but not Brazil) and other documents containing the word Brazil (but not Venezuela) as well as documents with Venezuela and Brazil in order.

❖ **NOT or AND NOT, -: Oriented search.**

- Allow you to force the exclusion of a word.
- Example: a search on (+cow-crazy) or (cow AND NOT crazy) will return all pages containing the word "cow" except those also containing the word "crazy").

**b. Other search operators**

❖ **Proximity Operators: NEAR:** Is used to indicate the reciprocal position of search terms.

- Example: (greenhouse NEAR effect) will return pages on the greenhouse effect or documents on the effect greenhouse.

❖ **Quotation marks " ":** Will give the pages where the words between quotation marks appear in their exact order.

- Example: "green tourism in Venezuela" will give pages where the exact expression appears according to the order of the words and without any other word between them).

❖ **Truncation \*:** placed at the end of a word, it broadens the search to all words with a common root.

- Example: (capit\* will give capital, captain, captaincy, etc.) (manage\* will give manager, managers, management, etc.)

❖ **The mask #, ?:** The mask is used to broaden search results. A minimum of three characters must precede mask symbols.

- The dieze (#) replaces a single letter (Ex.: Thes#s = thesis, theses,/ Wom#n = woman, women).
- The question mark (?) substitutes several letters (9 letters maximum). (Ex: Encyclo?dia = encyclopedia, encyclopaedia).



❖ **Parentheses ( )**: To enclose search strategies.

- Will refine your search results to better match your topic.
- Search engines prioritize search terms within parentheses before applying other filters.
- Example: A search for (smoking OR tobacco) AND cancer will return articles that include:
  - ✓ smoking and cancer
  - ✓ Tobacco and cancer
  - ✓ Smoking, cancer, and tobacco
  - ✓ However, it will not return results for smoking or tobacco unless cancer is also mentioned.

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## *Chapter III*

# *Writing techniques and procedures*

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## Chapter III: Writing techniques and procedures

### III.1. Chapter Objectives

In this chapter, we will:

- ✓ Review the basic principles of writing, including punctuation, syntax, paragraph division, readability, and objectivity.
- ✓ Emphasize the importance of intellectual rigor and familiarize the student with the concept of plagiarism.
- ✓ Teach the student how to avoid plagiarism by citing bibliographic references.

### III.2. Basic writing guidelines

#### a. Punctuation

The use of special marks to aid readers in understanding a piece of text is known as punctuation. Following the natural rhythms of speech, proper punctuation structures the text's material and directs the reader to pause when necessary. It improves clarity and reduces misconceptions.

**Tip:** To ensure accurate punctuation in your writing, try reading it aloud. If you naturally feel the need to pause, consider inserting a comma.

❖ **Capital letters:** We use capital letters :

- To mark the beginning of a sentence.
- At the beginning of proper nouns. Proper nouns include personal names (including titles before names ex “ Dr”), nationalities and languages, days of the week and months of the year, public holidays as well as geographical places.  
Ex: They are planning a long holiday in New Zealand.

❖ **Full stops (.):** we use full stops:

- To mark the end of a sentence.
- In initials for personal names. Ex: G. W. Johnston
- After abbreviations. Ex: etc./ Dr.

❖ **Comma ( , )** : we use Comma:

- To separate independent and dependent clauses. Ex: I enjoyed the singers, and I loved the dancers.
- To separate a list of similar words or phrases. Ex: It's important to write in clear, simple, accurate words.
- Before the coordinating conjunction "and". Ex: We took bread, cheese, and fruit with us.

❖ **Semicolon ( ; )**: can be used:

- To join two related main clauses. Ex: James Left a mess at his desk after he left work; Sarah had to clean it up.
- To join two related main clauses with conjunctive adverbs such as: however, moreover, nevertheless, furthermore, consequently, or thus. (Conjunctive adverbs can also be used with a comma.) Ex: James left a mess at his desk after he left work; consequently, Sarah had to clean it up.
- When the listed items already contain commas. This helps avoid confusion and improves readability. Ex: It's as easy as a,b,c; 1,2,3; doe, rae, mi.

❖ **Colon ( : )**:

- The colon must, in some way, explain, prove, or describe what ever came before it. Ex: The Bridgekeeper asked me three questions: what is your name, what is your quest, what is your favorite color.
- It is used also, to present dialogue and to introduce lists.

❖ **Exclamation marks ( ! )** : used:

- To note exclamatory sentences (to indicate an exclamative clause or expression in informal writing).
- Are not commonly used in academic writing.

❖ **Question marks ( ? )** We use question marks:

- To note interrogative sentences (make clear that what is said is a question).

- When using a question mark, a full stop is not needed because the question mark itself indicates the end of the sentence.
- In English, the question mark is not preceded by a space.  
Ex: Why do they make so many mistakes?

❖ **Ellipsis (...):**

- Marks omission of words (ex: in listing), represents a pause, or suggests there's something left unsaid.
- It can also indicate hesitation, although in this case, the punctuation is more accurately referred to as suspension points.

❖ **Quotation marks (“ ”):** are used:

- To inform a reader of something that was spoken. Ex: Lydia said, “Is this my prom dress?”
- When something is being directly copied from another work. Ex: Dr. Shruti claims, “The use of violence against women in India is on the rise.”

❖ **Parenthesis ( ):** Parenthesis note non-essential information that could be skipped without altering the meaning of a sentence.

❖ **Brackets [ ]:** Brackets are most commonly employed in academic writing within parenthesis, where the writer is omitting or explaining something. In either case, the writer places a bracket within the parenthesis, closes the bracket to continue the quote.

**b. Syntax**

Writing an academic paper requires full respect of grammatical and spelling rules, to ensure a precise, concise and intelligible style. For this, you need to:

- ✓ Limit the use of superlatives and repetitive adverbs.
- ✓ Respect the correct concordance of tenses.
- ✓ Adopt the active form and avoid excessive use of the passive form.
- ✓ The vocabulary chosen should be simple, easy to understand and adapted to the reader.
- ✓ Sentences should be short and simple in structure. It's recommended that sentences should be of twenty words or less each.

- ✓ Always check the grammar, and never trust your software's grammar or spelling checker entirely.

### **c. Paragraph division**

A text should be divided into paragraphs; each paragraph usually focuses on a single key idea. Long paragraphs that extend over more than one page should be avoided, as they can give the reader the impression that ideas are being presented in a jumble. A judicious division into paragraphs also has the advantage of making the text lighter and easier to read.

### **d. Readability**

Jean-Paul Simard says that you should put yourself in your reader's place and always keep him in your mind when writing. Putting yourself in your reader's place will ensure that they better understand and maybe even look forward to your writing. All written work must be written in such a way that the reader understands the meaning on the first reading. Here are a few tips to help you increase the readability of your writing:

- ✓ Avoid the use of informal and familiar language and vocabulary, except when using citations.
- ✓ Avoid acronyms.
- ✓ Check the spelling of words.
- ✓ Pay attention to the writing quality when handwriting.
- ✓ Read your text out loud, then you'll be able to identify articulation, rhythm, structure and vocabulary flaws.
- ✓ Get another reader to read your text, who can help identify what's missing in the ideas or what's wrong with the expression. This is a good way of measuring the understanding of your message.

### **e. The objectivity and the use of a neutral style**

Adopting a neutral style gives objectivity to the text. Remaining objective and neutral regarding a subject means avoiding expressing personal opinions or judgments (unless asked for). Terms that reveal the author's point of view should be avoided. On the other hand, objectivity also means going straight to the point and solving the problem directly. The use of third-person pronouns is also recommended when writing a scientific work. Here are a few tips:

- ✓ Avoid personalizing texts by using first- or second-person pronouns such as "I", "me", "you", and to address the reader using "you".

- ✓ It's more appropriate to use the pronoun "**we**". Ex: In TP n°3, **we** carried out the colorimetric and PH-metric assay.
- ✓ Other indefinite pronouns can be used like: any, some, every, and no.
- ✓ In scientific writing, the most commonly used terms are: the author, the reader, the student, the professor, the researcher, the scientists, the authors, the specialists... Ex: Despite the time it takes to complete experiments in the laboratory, **students** were able to finish and get their results on time.
- ✓ Avoid possessive adjectives such as: my, your, his, her.

#### **f. Intellectual accuracy**

When writing a scientific text, any statement, theory or hypothesis formulated must be supported by a certain number of elements (books, etc.) which demonstrate its relevancy and prove its worth. Quotations, statistics, sometimes even testimonials, etc. can be used to consolidate your scientific or technical arguments.

### **III.3. Plagiarism**

Plagiarism is the act of reproducing the whole or part of a text (content or form) of another production in your own production without quoting the original source. It's like borrowing money from a friend and never giving it back.

#### **a. How to avoid plagiarism**

- When using an extract from an existing text (regardless of the source: book, magazine, web page...), put it between brackets and quote the reference.
- When you summarize or rephrase an existing text, or simply borrow the author's idea, you have to provide and quote the reference (between brackets).

**Ex:** Catalysis plays an important role in the industrial world in fields such as energy production [1], and environmental protection [2].

#### **b. What is a bibliography?**

A bibliography is a method of classifying and presenting source documents. However, bibliography should not be confused with bibliographic reference (or citation)

- ✓ **A bibliography:** is a set of multiple bibliographical references classified in a list placed at the end of the document. It covers all documentary materials (whether in paper or electronic format: books, articles, etc.).

- ✓ **The bibliographic reference/ citation:** it is the identity card of the source document, and includes:

-Intellectual description (author's name, document title, publishing house/journal, etc.)

-Physical description (number of pages, volume, year of publication, etc.)

**Remark :**

- Bibliographic references must be written in a uniform manner, both in terms of the order of information and the page layout.
- References are quoted in the text using brackets (e.g. [1], which refer to citation (reference) number 1 in the bibliography list at the end of the text.

**c. The reason why we have to cite a bibliography**

- **Respect authors' copyrights and avoid plagiarism:** citing all used documents is a sign of scientific, intellectual and moral honesty.
- **Add value and credibility to the work:** research based on external sources gives your writing greater credibility. Readers will be aware that you are well researched and informed on the subject of your work.
- **Make it easier for readers to find what they're looking for:** so that they can quickly and easily identify the documents used.

**d. How to cite bibliographic references?**

- **Book**

Last name (1), Initial of chapter author's first name (1), last name (2), First name Initial (2).  
Book title. Name of publisher. Place of publication: Name of publisher, year. Number of pages.

**Ex. :** Granger, P. Panorama des liaisons chimiques. Paris : MASSON, 1997. 197 p.

- **Periodical article / scientifique paper**

First name Initial (1), Last name (1). First name Initial (2), Last name (2). Paper title. *Journal title*, year, volume (if it exists), (n°), page range.



**Ex. :** I, M. ASSABA, Y, BELHOCINE. Inclusion complexation of chloroquine with  $\alpha$  and  $\beta$  cyclodextrin: Theoretical insights from the new B97-3c composite method,. *Journal of Molecular Structure*, 2021, (1227), 129696.

- **Thesis, dissertation or internship report**

Last name, First name. Thesis title. Type of document: field. Place of defense: University, year of defense, number of pages.

**Ex. :** IbtiSEM, M, ASSABA. Etude théorique des propriétés d'emménagement dans les matériaux supramoléculaires poreux. Thèse : Génie des procédés. Université de Skikda, 2023, 82 p.

- **Website**

Author(s). "Title of Web Page." *Website Name*, Publisher, Date of Publication, URL.

**Ex:** Smith, John. "The Impact of Climate Change on Agriculture." *Environmental Research*, 5 Mar. 2020, <https://www.environmentalresearch.org/climate-change>.

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## *Chapter IV*

### *Writing a report*

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## **Chapter IV: Writing a report**

### **IV.1. Chapter Objectives**

In this final chapter, the student will:

- ✓ Understand the general structure and different sections of a report.
- ✓ Learn to write these different sections with all their specificities in order to write the appropriate and required report.

### **IV.2. General structure of a report**

The report is mainly structured as follows:

- Cover page
- Introduction
- Bibliographical research ( generalities)
- Materials and methods
- Results and discussion
- Conclusion
- Bibliography (list of bibliographical references).

In some reports, such as internship or dissertation reports, additional sections are included:

- Abstract and keywords
- Dedication
- Acknowledgement
- List of tables and/or figures
- Table of Contents (summary)
- Appendices

### **IV.3. Cover page**

The cover page is a formalistic element in a research project, but one of great importance. The cover page is a kind of an identity card of a report, on which you can read all the information about the research carried out. The following is a list of all the elements required on the cover page:

- ✓ Name of country,

- ✓ Ministry of education,
- ✓ Educational institution: student university, faculty and department,
- ✓ Subject title: at the center of the page, in bold, in a box, larger font size,
- ✓ Student's first name and surname,
- ✓ Supervisor's first name, surname and grade,
- ✓ Academic year.

In the case of an internship report, dissertation, or thesis, we also find:

- ✓ Order number and serial number: will be assigned after the defense, for classification and archiving purpose,
- ✓ Sentence introducing the type of the accomplished work (internship report/ thesis/ dissertation), the degree prepared (Licence/ Master/ Doctorat) and the field of study.  
For example: Master's thesis in Process Engineering,
- ✓ Jury: first name, surname, grade and university of each member.
- ✓ Defense date.

The following (figure IV.1) is an example of the cover page of a doctoral thesis.

<b>PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA</b> <b>MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH</b> <b>ZIANE ACHOUR UNIVERSITY - DJELFA</b> <b>FACULTY OF LETTERS, LANGUAGES AND ARTS</b> <b>DEPARTMENT OF FOREIGN LANGUAGES</b> <b>ENGLISH LANGUAGE DIVISION</b>	
	
<b>A thesis submitted in partial fulfillment of the requirements of the master degree in:</b> <b>Didaactics</b>	
<div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin: 10px auto; width: 80%;"> <b>Title :</b>  <hr style="border-top: 1px dashed black;"/> <hr style="border-top: 1px dashed black;"/> <hr style="border-top: 1px dashed black;"/> </div>	
<b>Prepared by:</b> .....	<b>Supervised by:</b> D. ....
<b>Board of examiners:</b>	
- .....	<b>Chairman</b>
- .....	<b>Examiner</b>
- .....	<b>Supervisor</b>
<b>Academic year :</b> .....	

*Figure IV.1. Cover page sample*

## IV.4 Abstract

The abstract can be placed just after the cover page or at the end of the report. A good abstract should enable the reader to quickly identify the essential content and thus judge the interest in reading further. The abstract should outline the purpose of the work, the problem addressed, the approach chosen to solve it, the results obtained and, finally, the conclusion drawn. It is often supported by key words (a maximum of ten) to help define the subject. In some cases (dissertations, theses), the summary is translated into several languages (Arabic, French, English (the Algerian case)) for wider reading.

## IV.5 Table of contents (Summary)

Also known as the "summary", the table of contents presents a detailed plan of the work, each part referred to the corresponding page in the text. It should include all the main points of the completed work, chapters, titles, subtitles, bibliographical references and appendices. Each section is marked by a page number, indicating the beginning of this section. This allows the reader to get a quick overview of the content of the report and, if necessary, to go directly to the part of the work of most specific interest.

**Note:** For greater precision in pagination, the table of contents is only drawn up once the entire work has been edited and finalized.

<b>Table of Contents</b>	
ABSTRACT .....	ix
LIST OF FIGURES .....	x
LIST OF ABBREVIATIONS .....	xi
Chapter Title 1 .....	1
1.1. Section .....	7
1.2. Section .....	14
Chapter Title 2 .....	25
2.1. Section .....	25
2.2. Section .....	31
Chapter Title 3 .....	39
3.1. Section .....	40
3.2. Section .....	51
Chapter Title 4 .....	58
4.1. Section .....	58
4.2. Section .....	64
4.3. Section .....	71
Conclusion .....	75
References .....	81

*Figure IV.2. Table of contents sample*

## **IV.6. Introduction**

The introduction should set the context of the report and capture the reader's interest by giving an overview of the subject addressed. It is recommended to provide some preliminary information on the subject to situate the hypothesis in a broader context. This allows the reader to assess the interest of the text in terms of his own expectations. Finally, it should conclude with a structural presentation of the various parts of the report, presenting the main sections of the work in order.

## **IV.7. Development**

The development section is normally the most voluminous part of the report, since it presents the work carried out and the results obtained. It consists of two main sections:

### **a. Materials and Methods**

In this section, the writer must provide all the details that made the experiment or research possible. It should clearly describe what was done and how. (e.g. study site, species studied, experimental devices and treatments ....). The aim is to enable another researcher (student) to reproduce the same procedure.

The description of the experimental protocol (operating mode) must include:

- ✓ The precision of the instruments used.
- ✓ The conditions under which the experiment or research was carried out;
- ✓ The species worked on;
- ✓ The experimental organization (duration, treatments, number of observations, repetitions, etc.);
- ✓ The tools used to collect and analyze these observations;
- ✓ A photo of the experimental set-up.

### **b. Results and discussion**

This is the main part of the report, requiring the longest and the most intense period of work, effort and reflection before reaching the conclusion. It is particularly divided into two parts: analysis and interpretation (discussion), which require a certain intellectual honesty from students, to ensure the reliability of the results obtained.

- **Analysis:** consists of collecting results and presenting them in the appropriate tables or figures (curves, graphs, etc.), supported by texts or comments.

- **Interpretation:** This involves reading and interpreting the results (discussion section). It is used to evaluate the validity of the results obtained. The quality of interpretation and writing in the discussion section reflect the scientific culture and intelligence of the author (the student). There is no template for this section, but a number of guides and samples are provided to facilitate its writing.

## IV.8. Conclusion

The conclusion is not the summary of the writing, but the end. First, it recapitulates the intermediate conclusions described in the development. It then lists the propositions deduced by the author, thus constituting the final part of the demonstration. At the end, and on the basis of the results presented and discussed, the author must be able to evaluate the objectives achieved in terms of the initial objectives. In the case of unfinished work, the student or researcher may also end the conclusion by indicating perspectives, suggestions or recommendations for a future work.

The most frequently used expressions for announcing a conclusion: we were able to demonstrate that..., we defined that..., we can conclude that...

**Note:** The introduction and conclusion are essential parts of a document. By reading them, the reader should be able to form a clear idea about the content developed within the body of the text. So it's important to take great care when writing them.

## IV.9. Appendices

The appendices immediately follow the conclusion, and are placed at the end of the work, just before the bibliography. Appendices are documents (tables, technical databases, abacuses, formulas and elaborate mathematical developments, raw data, a series of geographical maps, survey, results, etc.) that contain supplementary information that enhances the text understanding and which are too long to be integrated into the body of the text, thus cluttering up the text and making reading more difficult.

- ✓ Each appendix must have a number and a title.
- ✓ Appendices are usually numbered in Roman numerals (I,II,III) or in capitals (A,B,C), and are arranged in chronological order, according to the order of their appearance in the text.

## IV.10. Bibliography

The bibliography combines all the sources consulted and used. The set of references contained in the bibliography must follow a certain number of rules, as explained in chapter 3. References can be cited in several ways. Generally we distinguish the **numerical form** [1] and the **alpha-historical form**, for example (Bon, 2000).

- ✓ The list of bibliographical references is single-spaced (with a space equivalent to a line of text between each reference).

## IV.11. Dedication

Any work can be dedicated to people who are close or dear to us, living or dead, belonging or not to the field. It is a kind of homage to these persons, expressed in a concise and a temperate style. Even if the dedication remains a kind of free space reserved to the author, it is important to avoid any form of excessive emotional or sentimental expressions.

- ✓ Whatever its length, it should not exceed one page.

## IV.12. Acknowledgements

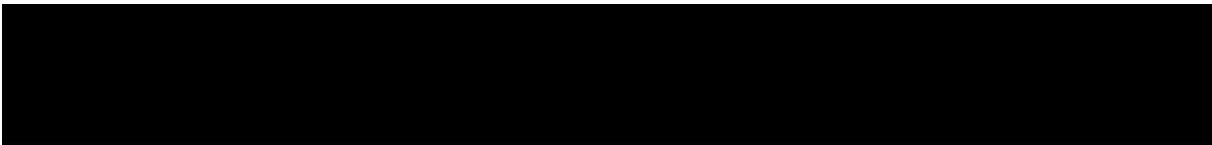
Acknowledgements are a report part where the author (student) thanks the people who helped him during the dissertation or the training process. As a sign of recognition, courtesy and respect, the author is expected to thank all those who have contributed to the realization of his report. Acknowledgements are addressed to the persons concerned according to the order judged appropriate by the author. For example, in a dissertation, it is more appropriate to thank the supervisor first.

- ✓ As a general rule, whatever their length, acknowledgements should not exceed one page.

## IV.13. List of tables and/or figures

As its name indicates, the list of tables and/or figures compiles all of the tables and figures that the student have used in his report and displays them with the associated page number where they can be found. This list should be included if there are three or more tables or figures in the report, otherwise the author is not required to create one.





**LIST OF TABLES**

Table 1 Related Work details. .... 6

Table 2 **Showing genes, their Protein codes and response** ..... 7

Table 3: Showing the result of proposed method. .... 14

Table 4: Showing the result of proposed method. .... 14

Table 5: Expressing the discussion details of proposed method. .... 15

**LIST OF FIGURES**

Figure 1 Related work details..... 7

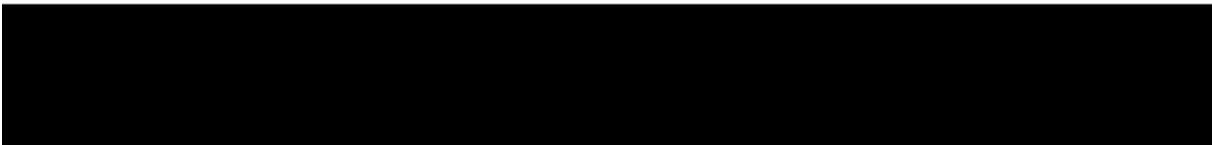
Figure 2 Blunt snout bream (megalobrama amblycephala) ..... 9

Figure 3 Showing the graph of material 1. .... 10

Figure 4 ..... 11

Figure 5 ..... 11

Figure 6 ..... 12



*Figure IV.3. List of tables/figures sample*

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