Literature Review

What is a scientific paper

1. A **scientific paper** is a written and **published report describing original research results.**

2. It must be the **first publication of original research results.**

3. In a form whereby peers of the author can repeat the experiments and test the conclusions.

Essential Parts of a Scientific paper

Essential Parts of a Scientific paper

1. **Introduction:** Gives a quick idea of the topic of the literature review.
2. **Materials**: Describe the experimental design so it is reproducible.
3. **Methods**: Describe the experimental procedures.
4. **Results**: Summarize the findings of the study.
5. **Discussion**: Interpret the findings of the study
6. **Summary:** Summarize the findings
7. **Acknowledgement:** Give credit to those who helped you
8. **References:** List all scientific papers, books and websites that you cited

The Title

- Titles should neither be too short nor too long as to be meaningless
- It should contain the keywords that reflect the contents of paper.
- It should be meaningful and not general.
- Make a list of the most important keywords.
- Think of a title that contains these words
- The title could state the conclusion of the paper
- The title **NEVER** contains abbreviations, chemical formulas,
- Be very careful of the grammatical errors

The Abstract

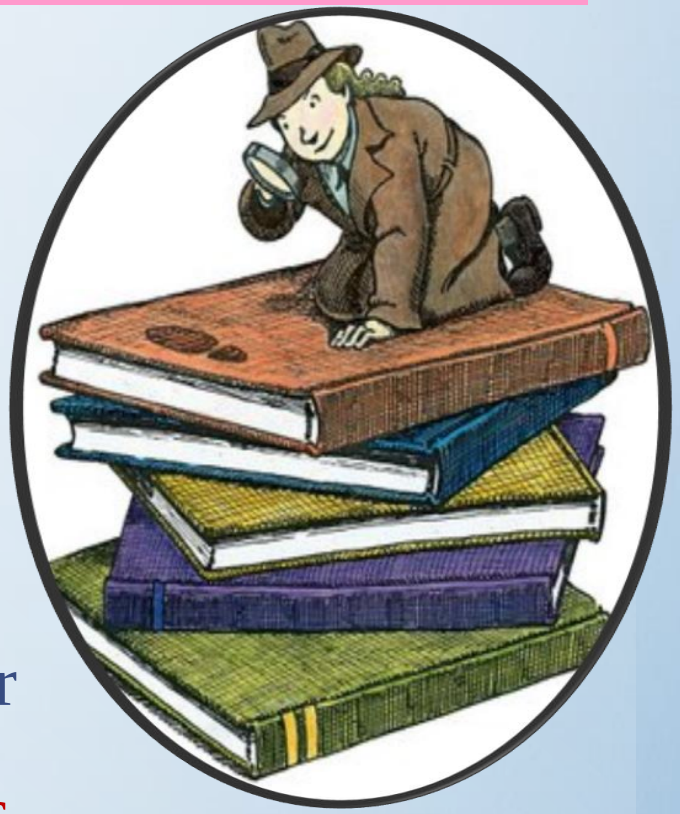
- Summary of the information in a document
- It is of fundamental importance that the abstract be written clearly and simply, as it is the first and sometimes the only part of the manuscript read.
- It should provide a brief summary of each of the main sections of the paper:

1. State the principal objective and scope of the investigation
2. Describe the methods used
3. Summarize the results
4. State the principal conclusions

- It is easier to write the abstract after completion of the paper

Criteria of the Abstract

- It should not exceed 250 words
- one paragraph.
- It should be written in the past tense
- It should not cite any references
- It should never give any information or conclusion that is not stated in the paper
- Must be accurate with respect to figures quoted in the main text.



The Introduction

- Gives a quick idea of the topic of the literature review, such as the central theme or organizational pattern.

Materials and Methods

- Provide full details so that the experiments are reproducible
- Describe the experimental design in detail.
- Must identify accurately experimental animals, plants, and microorganisms used by genus, species and strain.
- The source of subjects studied, number of individuals in each group used, their sex, age, and weight must be clearly stated.
- Methods used for statistical analyses must be mentioned
- Do *not* mix some of the results in this section
- Write in the past tense

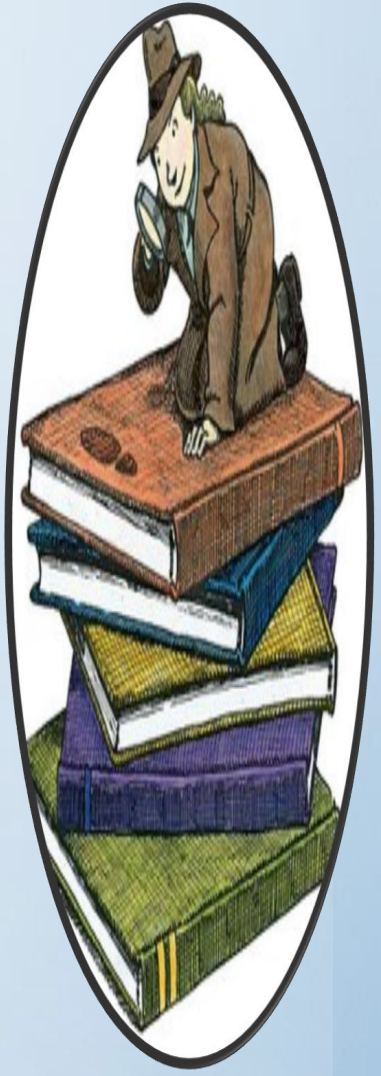
Results

- Results section is written in the past tense
- It is the core or heart of the paper
- It needs to be clearly and simply stated
- The purpose of this section is to summarize and illustrate the findings
- The text should guide the reader through the findings, stressing the major points

Results

- Tables are appropriate for large or complicated data sets that would be difficult to explain clearly in text.
- Figures are appropriate for data sets that exhibit trends, patterns, or relationships that are best conveyed visually.
- Any table or figure must be sufficiently described by its title and caption or legend, to be understandable without reading the main text of the results section.

Discussion



- It is the hardest section to write.
- Its primary purpose is to show the relationships among observed facts
- It should end with a short summary or conclusion regarding the significance of the work.
- Show how your results and interpretations agree or contrast with previously published work.
- Any table or figure must be sufficiently described by its title and caption or legend, to be understandable without reading the main text of the results section.

Acknowledgments

- You should acknowledge:
  1. Any significant technical help that you have received from any individual in your lab or elsewhere
  2. The source of special equipment, cultures, or any other material
  3. Any outside financial assistance, such as grants, contracts or fellowships
- Do not use the word “wish”, simply write “I thank …..” and not “I wish to thank…”

References

- Referencing is a standardized way of acknowledging the sources of information and ideas that you have used in your document.
- A list of ALL the references used in the text must be written.
- Any papers not cited in the text should not be included.
- Reference format varies widely:
  - **Harvard format** (the name and year system) is the most widely used
  - **Numerical system**

Some important Language points:

- Avoid complex sentence structure
- Use simple and clear English.

Literature Review

Definition

Critical analysis of a segment of a published body of knowledge through summary, classification, and comparison of prior research studies, reviews of literature, and theoretical articles.

Definition

- A literature review discusses published information in a particular subject area, and sometimes information in a particular subject area within a certain time period.
- A literature review is the effective evaluation of selected documents on a research topic.

- Literature can include books, journal articles, internet (electronic journals), newspapers, magazines, theses and dissertations, conference proceedings, reports, and documentaries.

Structure of literature review

- **Introduction**
  - Gives a quick idea of the topic of the literature review, such as the central theme or organizational pattern.

- **Body**

Contains your discussion of sources and is organized either chronologically, thematically, or methodologically.

- **Conclusions/Recommendations**
  - Discuss what you have drawn from reviewing literature so far. Where might the discussion proceed?

Characteristics of Effective Literature Reviews

- Outlining important research trends
- Assessing the strengths and weaknesses of existing research
- Identifying potential gaps in knowledge
- Establishing a need for current and/or future research projects

Steps for Writing a literature review

- Planning
- Reading and Research
- Analyzing
- Drafting
- Revising

Planning

- **Focus**
  - What is the specific thesis, problem, or research question that my literature review helps to define?
  - Identifying a focus that allows you to:
    - Sort and categorize information
    - Eliminate irrelevant information
- **Type**
  - What type of literature review am I conducting?
  - Theory; Methodology; Policy; Quantitative; Qualitative

Planning

- **Scope**
  - What is the scope of my literature review?
  - What types of sources am I using?

- Academic Discipline
  - What field(s) am I working in?

Reading and Researching

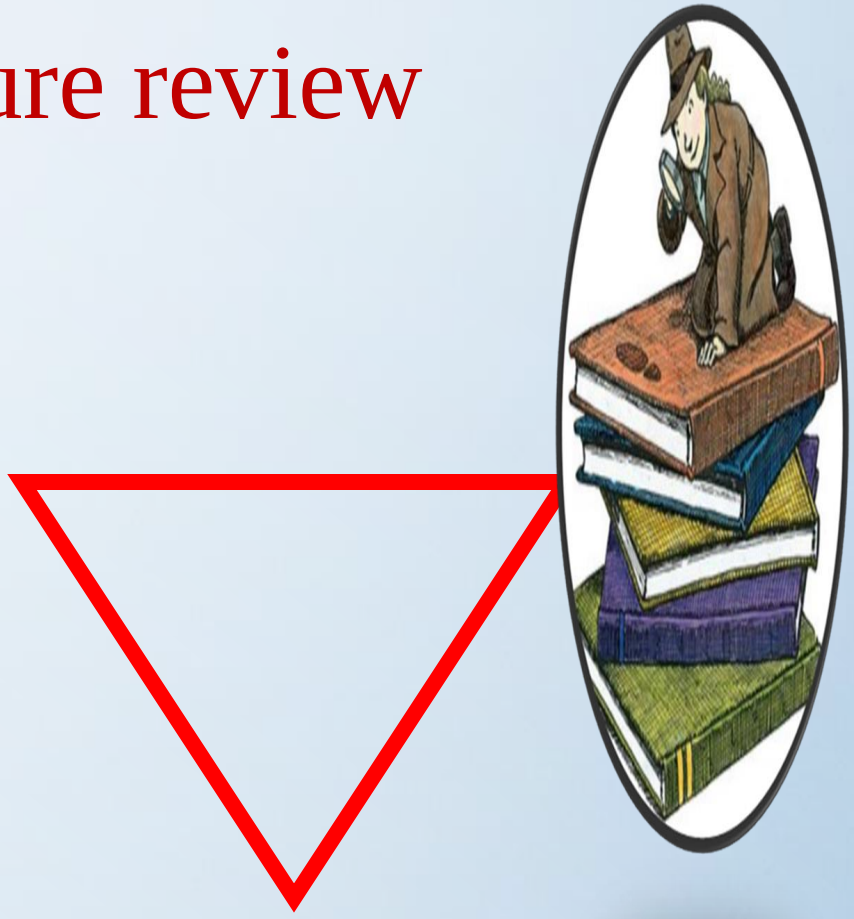
- Collect and read material.
- Summarize sources.
  - Who is the author?
  - What is the author's main purpose?
  - What is the author’s theoretical perspective? Research methodology?
  - Who is the intended audience?
  - What is the principal point, conclusion, thesis, contention, or question?
  - How is the author’s position supported?
  - How does this study relate to other studies of the problem or topic?
  - What does this study add to <u>your</u> project?

Key points of a literature review

- Tell me what the research says **(Theory)**
- Tell me how the research was carried out **(Methodology)**.
- Tell me what is missing or the gap that research intends to fill.**(Research gap)**

Organization of literature review

- **A general organization looks like a funnel**
  - **Broader topics**
  - **Subtopics**
  - **Studies like yours**



How to organize studies

- Chronological
  - By publication date
  - By trend
- Thematic
  - A structure which considers different themes
- Methodological
  - Focuses on the methods of the researcher, e.g., qualitative versus quantitative approaches

Making links between studies

Agreements

- *Similarly*, author B points to…
- *Likewise*, author C makes the case that…
- Author D *also* makes this point…
- *Again*, it is possible to see how author E agrees with author D…

Disagreements

- *However*, author B points to…
- *On the other hand*, author C makes the case that…
- *Conversely*, Author D argues…
- *Nevertheless*, what author E suggests…

Types of Literature Review

On the purpose of research there are 3 main types of literature review:

- **Evaluative Review**
- **Explorative Review**
- **Instrumental Review**

Evaluative Review

- **Evaluative Review is a type of literature review which focus on providing a discussion of the literature in terms of its coverage and contribution to knowledge in particular area.**

- **It is often used to directly compare research findings of a project with other when findings are directly available.**

Exploratory

- **This type of literature review which is seeking to find out what actually exists In the academic literature in terms of theory,emperical evidence &research methods as they pertain to specific research topic & its related wider subject area.**
- **It is also used to sharpen , focus,& identify research questions that remain unanswered in the specific topic.**

Instrumental Review

- **This type of literature review which is seeking to find out how to conduct some research on a highly specific research problem.**

- **It is not designed not to identify the state of current knowledge in an area but to identify the best way to carry out a research with out incurring unnecessary & unavoidable cost.**

Kinds of Literature to be Reviewed:

1. latest publications on the discipline.
2. Theses in the selected discipline.
3. To identify research gaps in the field.
4. To avoid duplication previous study in the field & journals

Sources of Literature

Sources of literature can be divided into 3 :

1.Primary literature sources

2.Secondary literature sources

3. Tertiary literature sources

1.Primary literature sources

It includes:

1.Reports

Reports include market research reports, government reports etc.

2.Confrence proceedings

Conference proceedings referred to any symposia are often published as unique titles with in journals, or as books. most conference will have a very specific theme.

3.Theses

These are the research papers contains details of research done in a particular topic. It is a good source of detailed information & further reference.

2.Secondary Literature sources

1.Journals

Journals are also known as periodicals, magazines are published on a regular basis.

2.Books

Books are written for specific audiences.the material in books are presented in a more ordered and accessible manner than in journals.

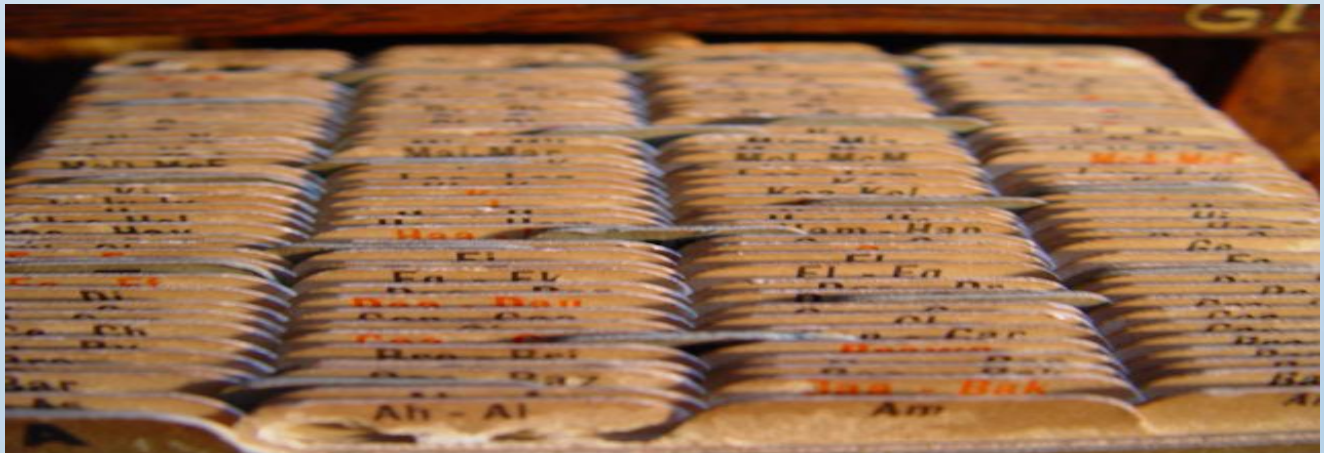
3.News papers

News papers are good source of topical events.

3. Tertiary literature sources

Tertiary literature sources also called as "search tools" are designed either to help to locate primary & secondary literature or to introduce a topic. They include indexes & abstracts as well as encyclopaedias & bibliographies.

catalogues of libraries



A Good Literature Review is:

- **Focused** - The topic should be narrow. You should only present ideas.
- **Concise** - Ideas should be presented economically.
- **Logical** - The flow within and among paragraphs should be a smooth, logical progression from one idea to the next
- **Developed** - Don’t leave the story half told.
- **Integrative** - Your paper should stress how the ideas in the studies are related.
- **Current** - Your review should focus on work being done on the cutting edge of your topic.

Common errors in reviewing literature

- Hurrying through review to get started could mean that you will miss something that will improve your research.
- Relying too heavily upon secondary sources.
- Concentrating on findings rather than methods.
- Overlooking sources other than academic journals. Don’t forget newspaper articles, magazines.
- Searching too broad or too narrow of a topic.

Thank You!!!

www.thebodytransformation.com


THANK YOU!