

RESEARCH

Answers NEW questions about a topic.



What is a research paper?

- Analyses a perspective or argues a point
- More than just a review or summary of existing sources or literature
- Uses arguments and source information to support a case
- Analyse the topic or issue:
 - break it down in a way that makes sense to you and your reader
 - place it in the context of a broader theme or theoretical perspective

What is a research paper?

- Take an 'argumentative' approach to support your stand on the issue:
 - uses information as evidence to support its point
 - uses logic to advance the argument
- Present your original view on the issue
 - must present your original thought, research, and analysis
 - not sufficient to simply present the views of others

Who is your audience?

- Writing should make a new contribution to the knowledge of a given field. Therefore, you need to appear serious about the subject matter.
- Take on a role as an entering member of the academic community... You are establishing a relationship between yourself and a larger audience.

Who is your audience?

A good idea might be to narrow your audience down to your course (that includes professor, classmates, T.A.s, future profs) and the research community in your field be it Philosophy, Biology, Sociology or any other discipline.

Why You <u>Should</u> Write A Research Paper

To consolidate your research

To publish in a Journal

To submit to a conference



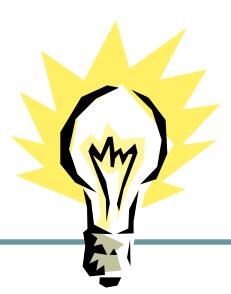
To do homework!!!

"What If I don't know How?"

- Take advantage of science/philosophy/etc writing resources available via books, papers, and internet
- Participate in small group writing sessions
- Ask anyone who knows
- FOLLOW ME!!

Pick a Topic

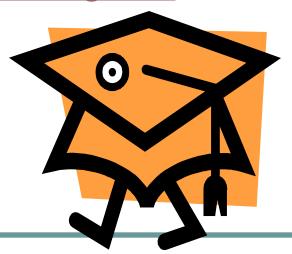
- Your Topic should be:
 - Something that interests you
 - Something you know a lot about
 - Something you feel strongly about



Pick a Topic

Or

- -You have never heard of
- -You know nothing about
- -That interests you
- -Your professor assigned



Correct

It is better that:

Your topic be something that interests you.



Define a topic

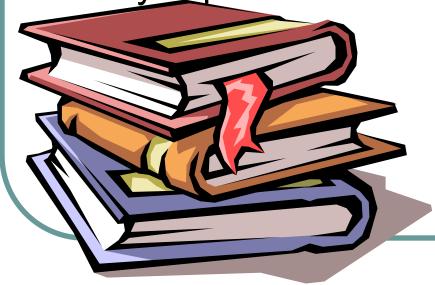
- Basic searching to check if enough material is available.
- Make sure the topic is not too broad
- Make sure the topic meets the approval of your professor / group / community!

Why define your topic before you start?

- It can help to organize thoughts.
- It can avoid frustration.
- It can help use time effectively and productively.

Research Your Topic

- At the Library
- Online
- Newspapers
- Online Encyclopedias



- Take notes and write down all sources you use
- Be careful with the sources you use...
- Some sources provide false or inaccurate information

TYPES OF SOURCES

Primary Source:

- The original text of something;
- First-hand information
- Ex: a book written by one who experienced something; an original document, case notes, journal or diary, research notes

- Secondary Source:
- A work that presents information, along with the opinions and ideas of scholars, about a primary source.

Less reliable

Evaluate Your Sources

- Carefully evaluate each research source to see if it answers any of your research questions.
 - Discard any sources that do not meet academic criteria: currency, accuracy, authority, coverage, or objectivity

Works Cited



Use Some Standard for listing the Reference

Gathering data/information (notecards)

 Collect note cards having topic headings.

Source/Bibliography Cards

INCLUDE:

Source Number

- Author's Name
- Title of the Article (in quotation marks) or Title of Book or Periodical (underlined/Italic/ایرانیك)
- Edition or volume number
- Date of Publication
- Place of Publication
- Publishing Company
- Page Number(s) Used

Internet Source Cards

Include:

Source Number

- Title of the website (underlined)
- Author's Name
- Copyright Date
- Article Title (in quotation marks)
- Web address
- Date you obtained the information

World Wide Web (WWW) Sites:

- To cite files available for viewing/downloading via the World Wide Web by means of a Web browsers, provide the following information:
- the author's name (if known)
- the full title of the document in quotation marks
- the title of the complete work if applicable in italics
- the date of publication or last revision (if available)
- the full http address enclosed within angle brackets
- the date of visit in parentheses

Some Points Concerning References

- Cite ideas or information from other sources
 - In the body of the text
 - In the references section
- Citations should be in standard format
- Don't copy citations! Read the original paper for yourself!

Writing process

- Stating thesis (Listing ideas)
- Collection of information
- Organization
- Drafting
- Revising
- Proofreading

Writing Your Rough Draft

- Brain Storm
- Organize your notes
- Make an Outline
- Start Writing



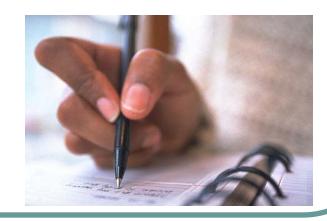
Drafting

- Evaluate and organize ideas
- Select relevant notes
- Give yourself ample time to work on your project
- Avoid distractions

Rough Draft

- Write your rough draft following your research points carefully.
- Have an Introduction, Body and Conclusion.
- Format the paper according to some standard
- Draft the bibliography of sources used according to some standard





Outline Format

- I. Introduction
- II. Main Topic 1
- A. Subtopic 1
- 1. Detail 1
- 2. Detail 2
 - B. Subtopic 2
 - III. Main Topic 2

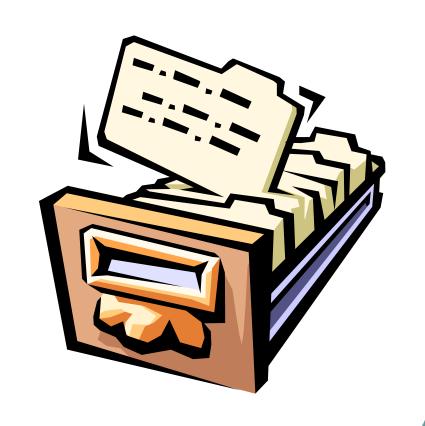
etc.....

For every 1, there must be a 2! For every A, there must be a B!

Organize your Paper

-AN OUTLINE –
Puts the paper in a logical order!

-Group your note cards according to topic headings.



Outline Organization

An outline can be organized in TWO ways:

- Deduction a process of development that moves from the general to the specific.
- Chronological Order a process that follows a plot or topic with a traditional time line that unravels a plot or topic. (good for cause and effect papers and history papers).

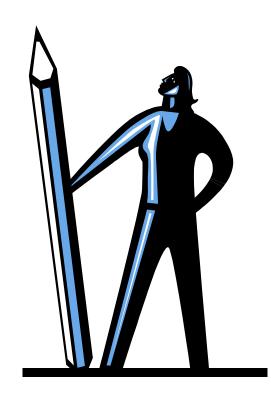
Once You've Completed Your Rough Draft...

- Reread your rough draft
- Look for and change:
 - Areas of your paper that don't flow or are hard to understand
 - Grammatical errors
 - Spelling errors (in particular, in English/French/... writing)

Now you are ready to make your final draft...

Your Short Paper's Body

- The first paragraph of your paper should be an introduction.
- The last paragraph of your paper should be a conclusion.
- The middle of the paper should be at least 3 paragraphs long.
- Each paragraph should contain at least 5 sentences.



The Possible Structure of Your Paper (1)

- 1. Title
- 2. The name of Author (s)
- 3. It would be better that you put these two items on a single page called "Title Page"
- 4. Table of contents
- 5. Abstract (+ Keywords) (2500 Character Max, incl spaces)
- 6. Introduction (Background & Significance)



The Possible Structure of Your Paper (2)

- 7. Literature Review
- Methodology +
 Materials(How did you do it?)
- 9. Results (What happened?)
- 10. Discussion (why did it happen that way?)(All 10 pages maximum**)
- 11. Summary / Conclusion



The Possible Structure of Your Paper (3)

- 12. Acknowledgement
- 13. References (
 According to the standard format for citation and bibliography)
- 14. Figures and tables

**Note: 10 pages does not include TP, TOC, Ref, Ack, or figures and tables !!!



IMRAD structure

- Introduction
- Methods/Materials
- Results
- Discussion
- Abstract

Characteristics of the Abstract

- The abstract is a <u>brief</u> summary of your research. No more than 2500 Characters!!!
- It should include all of the following:
 - Introduction Background & Significance.
 - Methods and Materials How did you do it?
 - Results What happened?
 - Discussion and Conclusions Why did it happen that way?
- Spell out acronyms (سرنام ها)
- No Citations

Characteristics of the Abstract

- 1) Short and concise
- 2) Summarizes your project/thesis
- 3) Not longer than 1 page (250 words/2500 characters)
- 4) Includes all the keywords in your study

Characteristics of Abstract

- 5) Re-establish the topic of the study
- 6) Provide the research problem and/or main objective of the study
- 7) Indicate the methodology used
- 8) Present the main findings
- 9) Present the main conclusions

Common Problems with Abstract

- ı. Too long
- II. Too much detail
- III. Too short
- IV. Failure to include important information



INTRODUCTION

- 1. Gives a frame of reference
- 2. Hooks the reader Make it interesting!
- 3. States the problem investigated
 - 1. Why are scientists interested in this topic?
 - 2. What is the purpose of this research?
 - 3. Are there any long term goals?
- 4. Includes background / context and references important to understanding the study
 - 1. Includes what people have done so far
 - How your study advances current understanding
 - 3. Explains terminology and background information

- 5. Introduces the study by giving background
- Presents the research problem
- 7. Presents "how" this problem will be **solved**.
- 8. Presents why the study is being done (significance)
- Makes it clear that you have adequately researched the topic
 - Will be longer than one paragraph

Description of the Elements of Introduction

- Background: What is the context of this problem? In what situation can this problem be observed?
- Problem Statement: What is it we don't know? What knowledge do we gain from this study? What needs to be improved?
- Rationale: Why is this study important? Who will benefit? Why do we need to know this?

- Objectives: What steps will you take to try to improve the situation?
- Scope: Is there any aspect of the problem you will not discuss? Is the study limited to a specific area or situation?
- Limitations: Is there any factors, conditions or circumstances that prevent you from achieving your desired objectives
- Assumptions: In regarding to a technique used, do you take certain conditions or requirements for granted? Are there certain fundamental conditions or states you assume to be true?

- Most common types of introductions:
 - 1. "Reverse Pyramid"
 - Begin with general or broad statements, then work down to your thesis which is the last statement in the introduction.
 - Uses accounts of interesting incidents to stimulate reader's interest

2. Outline

Acquaints your reader with what you will discuss in your paper by leading the reader through the major points

3. Quotation

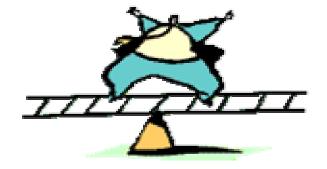
Uses a quotation that succinctly describes the topic. Keywords or phrases may be identified here because of their importance to the paper

4. Compare/Contrast

Shows how two or more similar or dissimilar ideas will be presented

Common Problems with Introduction

- Too much detail, and thus too long
- Repetition of words, phases or ideas
- Unclear problem definition
- Poor organization



Template for An Introduction

- Step 1: Establish the study area by
 - Explain why this area is important and/or
 - Moving from general to specific and/or
 - Reviewing relevant items of previous research

Template for An Introduction

- Step 2: Define a research problem (question) by
 - Indicate a gap in the previous studies or
 - Raise a question or
 - Continue a previously developed line of inquiry or
 - Counter-claiming (disagree with an existing/accepted approach)

Template for An Introduction

- Step 3: Propose a solution by
 - Outline purpose/set objectives and/or
 - Announce present studies and
 - Announce principal findings (results) and
 - Indicate the structure of the study

Materials and Methods

Describe the research, the experimental procedure, and the equipment used

- It is acceptable to reference a little known technical procedure
- Do NOT describe well-known techniques
 - Examples: NMR

Discussion

- Analysis of Results
- Discuss results in order they were presented
- Comparisons to similar studies
 - Are results consistent with, differ from or improve upon another study?
 - Remember to cite the original study
- Troubleshooting
 - address questions or possible discrepancies that others may raise about your research.
 - Remember to cite the original study.
- If results are inconclusive try to present in a positive light



Results



As figure one shows, axon length increases in the presence of higher concentrations of NGF

DO NOT INTERPRET THE DATA

Increased axon lengths shown in figure one <u>indicate</u> that NGF is an important factor in neuronal growth

 Results section describes in words what is shown graphically in tables and figures

Conclusions

- Ties together and shows reader what has been presented.
- Indicate why you reached that conclusion
 - Refer to the results that help you reach your conclusions
- What is the most significant finding
- Mention possible avenues for future research

Conclusions

- Restate thesis
- Summarize main points
- Emphasize key words/phrases
- Use succinct quotation
- Generally no longer than 1-2 paragraphs

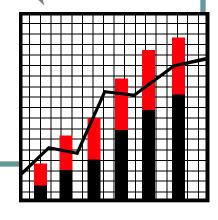
Acknowledgments

- Identify where and when the research was done.
- Acknowledge those who provided major assistance to you.
- Thank you Institute for creating, funding, and organizing the program.
- If applicable, thank any other person or institution who has helped you

Figures and Tables

- Number tables and figures separately.
- Label and explain graphs and tables properly
- "Figures" includes all graphs and pictures.
- Include figure captions.
- Remember: all tables and figures are placed at the end of your paper.

Figure 5. A really great figure!



References/Bibliography

BOOKS: ONE author

Author's last name, author's first name/first letter of the first name, year of the first publication in parentheses, title of the book Italicized (Iranized) or underlined, the last and the first name of the translator(s) after the term for translation (if the work has been translated), edition #, city: publisher, the periodicity, year.

NOTE:

- 1. You may put the last four items in parentheses.
- 2. In the case of an edited book, "ed(s)" must be put after the name of the editor(s).

- Ellis, Havelock (1936), Studies in The Psychology, 2 vols., 3rd edn, (N.Y.: Random House, 1936).
- Beauchamp, Tom L. (ed.) (1974), Philosophical Problems of Causation, (Encino, CA: Dickenson Publishing Co., Inc.).
- اکرمي، موسي (۱۳۸۰)، گاهشماري ايراني،چاپ دوم (تهران: دفتر و پژوهشهاي فرهنگي، ۱۳۸۴).

BOOKS: Tow authors

Last name of the first author, his/her first name (or first letter of his/her first name), first name of the second author (or first letter of his/her first name), his/her last name, year of the first publication in parentheses, title of the book Italicized (Iranized) or underlined, the last and the first name of the translator(s) after the term for translation (if the work has been translated), edition #, city: publishing company, year,

- Elliott, Alfred and Charles Ray (1960), Biology, 2nd edn (N.Y.: Appleton-Century-Crofts,, 1996).
- Frazer, James George (1890): The Golden Bough, ed. by Theodor H. Gaster (Garden City, N.Y.: Doubleday, 1961).
 - الیوت، ۱ و چارلز ری (۱۹۴۰)، زیست شناسی، ترجمهٔ مهدی په کریمیان و حسین محمدی، چاپ دوم، تهران: انتشارات علم و فرهنگ و هنر، ۱۳۸۴.

BOOKS: More than tow authors

Last name of the first author, his/her first name (or first letter of his/her first name), et al, year of the first publication in parentheses, title of the book Italicized (Iranized) or underlined, the last and the first name of the translator(s) after the term for translation (if the work has been translated), edition #, city: publisher, the periodicity, year.

Example:

Beauchamp, Tom L. and Alexander Rosenberg, *Hume and the Problem of Causation*, (New York: Oxford University Press), 1981.

ARTICLES:

1. In journals

Author's last name, author's first name/first letter of the first name, year of the first publication in parentheses, title of the article in parentheses, the last and the first name of the translator(s) after the term for translation (if the work has been translated), title of the journal *Italicized* (*Iranized*) or <u>underlined</u>, Serial number of the journal, year, pages containing the article.

ARTICLES:

1. In journals

- ❖ Sankey, Howard and David Cockburn (1991), "A Dialogue on Scientific Rationality", *Cogito*. Autumn, pp. 135-140
- ❖ Cartwright, N., 1980, "Do the Laws of Physics state the Facts", *Pacific Philosophical Quarterly* 61, 75-84.

ARTICLES:

2. In books

Author's last name, & thor's first name/first letter of the first name, year of the first publication in parentheses, title of the article in parentheses, the last and the first name of the translator(s) after the term for translation (if the work has been translated), address of the book according to the method mentioned.

ARTICLES:

2. In books

- ❖Harrison, George R., "Diffraction grating," in *McGraw-Hill Encyclopedia of Physics*, edited by Sybil P. Parker, (New York: McGraw-Hill Book Co.), 1983, pp. 245-247.
- ❖Feyeraben, P. (1973) "Scientific Method", in Beauchamp, Tom L. (ed.) (1974), *Philosophical Problems* of Causation, (Encino, CA: Dickenson Publishing Co., Inc.).

ARTICLES:

More than tow authors

- ❖Bigelow, J., B. Ellis and C. Lierse (1992), "The World as One of a Kind: Natural Necessity and Laws of Nature", *British Journal for the Philosophy of Science* 43: 371–388.
- ❖Bigelow, J., et al (1992), "The World as One of a Kind: Natural Necessity and Laws of Nature", British Journal for the Philosophy of Science 43: 371–388.

More than tow works by th same author

- 1. Aaaaaa, Yyyyyy (2009) a: *Introduction to Cosmology* (Oxford: Oxford University Press, 2nd edn. 2010, 3rd repr. 2012)
- 2. -- (2009)b: From Big Bang to Big Crunch (Tehran: Sharif University of Technology, 4th printing 2014)
- 3. -- (2009)c: "Why CMB", Astrophysical Journal, 65: 345-375
- 4. -- (2010) "The Structure of the Universe" in Frank, M. and H. Rahbar (eds): *Universe* (Cambridge: Cambridge University Press, 2010)

Internet Sources

Example:

Burka, Lauren P. "A Hypertext History of Multi-User Dimensions." MUD History. 1993.

http://www.ccs.neu.edu/home/1pb/mud-history.html (5 Dec. 1994).

The cases of using a Reference

- When do you use a reference?
 - When you make reference to someone else's idea, either through paraphrasing or quoting them directly.
 - Every direct quotation
 - Paraphrased material, unless it contains information that is generally known by people knowledgeable on the subject
 - When summarizing in your own words, you can put a reference after the first sentence of a summary that refers to the works of one or several authors.

Referencing and Plagiarism

- What is plagiarism?
 - Plagiarism is the unauthorized use of someone else's thoughts or wording either by incorrect documentation, failing to cite your sources altogether, or simply by relying way too heavily on external resources.

Steps to Avoid Plagiarism

- Document Direct Quotations
- Document Paraphrased Ideas
- Document Original Ideas Not Your Own
- Include a Works Cited Page

The Standard Referencing Style

- Standard Reference Styles
 - MLA (Modern Language Association)
 - 2. **APA** (American Psychological Association) referencing styles are the most common.
 - Use any common referencing style, but be consistent.

Tow Standard Referencing Styles

- MLA Style: Endnotes/Footnotes
- Mina P. Shaughnessy, *Errors and Expectations: A Guide for the Teacher of Basic Writing* (New York: Oxford University Press, 1977), p. 57.
- APA Style: within parentheses in the text, plus works cited (or bibliography)

In the text: (Shaugnessy, 1977, p. 57)

In Bibliography: Shaughnessy, M.P. *Errors and Expectations: A guide for the teacher of basic writing.* New York: Oxford University Press, 1977.

Footnotes

First name, Last name: <u>Title underlined</u> or *Italicized/Iranised*, pages.

Example:

¹ Burrhus Frederic Skinner: *Science and Human Behavior*, pp. 6 and 23.

- ² B. Russell: *Human Knowledge: Its Scope and Limits*, p. 242.
- ³ Aristotle: *Metaphysics*, I, 1 and 2. Also see Plato: *Republic*, VII, 533c.

Use of "Ibid", "Op Cit", and "Loc cit"

Ibid.:

short for the Latin "*Ibidem*", meaning "The same" (همان). So, *Ibid.*, refers to the same author and source (e.g. book, journal) as the immediately preceding reference.

For example:

¹ Burrhus Frederic Skinner: *Science and Human Behavior*, pp. 6 and 23.

² *Ibid.*, p. 30

Use of "Ibid", "Op Cit", and "Loc cit"

Op cit.:

Short for the latin "opus citatum", meaning "the work cited" (اثر مذکور).

This is used in footnotes to refer the reader to an earlier citation.

(ibid refers readers to the immediately preceding citation.)

For example:

3.Skinner, op. cit., pp. 33-34.

Use of "Ibid", "Op Cit", and "Loc cit"

loc. cit.: means "in the same place", that is, the same work and the same page (همان، همانه).

This is used in footnotes to refer the reader to an earlier citation.

For example:

- 1 Burrhus Frederic Skinner: *Science and Human Behavior*, pp. 6 and 23.
- 2 B. Russell: Human Knowledge: Its Scope and Limits, p. 242.
- 3 Aristotle: *Metaphysics*, I, 1 and 2. Also see Plato: *Republic*, VII, 533c.
- 4 Skinner, loc. cit.

 You MUST have a works cited page at the end of the paper but it is not sufficient alone for documenting ideas:

Any ideas that are not your own may be documented right in the paper's text with parenthesis, including the author's name (and the date, if making use of several works of the same author) and the page number.

 You could also use the title of the work and/or the author's name in your sentence.

EXAMPLE: According to Aristotle in *Metaphysics*....

Then just the page numbers need to be in parenthesis.

 If the same author is being cited directly after a previous citation, just the new page number in parenthesis is sufficient.

- Documenting a Quote:
- -Use quotation marks.
- -Parentheses go before /after the period.

- Documenting a Paraphrase:
- (author's ideas in your own words)
- -Don't use quotation marks.
- -Parentheses go before/after the period.

- More than one work by the same author: Include the author's name, the year of publication, and the page number.
- For specific questions on how to cite certain works (for example a sacred text, a classic text), consult some standard handbook.

- Longer citations (use more than three lines in the paper)
 - Indent an inch on each side
 - Single Space
 - No Quotation Marks
 - Parenthesis before the final period

Guidelines for a Works Cited Page

You will have to consult some standard handbook for specific types of citations.

- The works cited page is placed at the end of your paper and numbered consecutively within the body of your paper.
- Center and bold the title **Works Cited** / **References** / **Bibliography** and place it one inch from the top of your paper. Don't underline or put in quotes!

Guidelines for a Works Cited Page

- Double space between each entry. Single space within the entries.
- Arrange the entries alphabetically. If it begins with an article (a, an, the), alphabetize by the next word.
- If you cite two or more works by the same author, use the titles for the alphabetical order.

Guidelines for a Works Cited Page

- All entries begin at the left margin (یا), but subsequent), but subsequent lines are indented five spaces.

Using in Quotation

In DIRECT QUOTATION you may use square brackets (i.e.[]) to show adding or omitting one or more particles:

- [...] for omitting one or more particles
- [aaaaa] for adding one or more particles
 ("a" stands for one particle)

Additional Requirements (Formating the Page)



- Use 1 inch margins.
- Use Times New Roman or a similar font with 12-point type.
- Double-spacing.
- Indent each new paragraph

Final Paper Format

- 8 ½" by 11" Paper
- 12 point format
- Double Spaced
- 1 inch margins on all sides
- Number the pages. They should include your last name and page number.

Formatting the Paper

- Write on one side of the paper only
- Double-space
- Preserve a left and right margin
- Use a cover sheet, with the title of the paper, your name, the course number/name, (student number), instructor's name, institution, and date (deadline)
- Put the title of the paper at the top of the first page
- Number every page after the first (bottom or top right)

Some Points for Success

- Write objectively (in the third-person)
- Don't mix conclusions with the results
- Proofread
- Ask peers to read your paper!

Title Page

- Title of Research
- Name of Author(s)
- Center
- Host Dept. (e.g. Philosophy of Science Department)
- Location (e.g.Tehran, Iran)
- Date: Dey 03, 1385
- E-mail

Table of Contents

Table of Contents

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- List all sections of the paper with page numbers.
- Tables and Figures are included at the end of your research paper (after your references.)
- Remember: the Table of Contents is NOT included in your overall page count.

THE END

Now Get to Work!! musa.akrami@sr.iau. ac.ir

