

Research Methodology: Writing up

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OUTLINE

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 - Organization
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 - Points to be avoided
- Discussion of results
 - Objectives
 - Contents
 - Few rules
- Referencing styles
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Presentation of Results

- The results section should state the findings of the research arranged in a logical sequence without bias or interpretation.
- It should be concisely developed, using non-textual elements appropriately, such as figures and tables, to present findings more effectively.
- Past tense should be used when referring to the results. Reference to findings should always be described as having already happened because the method of gathering data has been completed.

Organization of the section

- Presentation of a synopsis of the results followed by an explanation of key findings.
- Presenting a result and then explaining it, before presenting the next result then explaining it, and so on, then end with an overall synopsis.

Contents of a Results section

- An introductory context for understanding the results by restating the research problem underpinning the study.
- Inclusion of non-textual elements, such as, figures, charts, photos, maps, tables, etc. to further illustrate key findings.
- A systematic description of results, highlighting for the reader observations that are most relevant to the topic under investigation.
- A short paragraph that concludes the results section by synthesizing the key findings of the study.

Points to be Avoided

- Discussing or interpreting results.
- Reporting background information or attempting to explain the findings.
- Ignoring negative results.
- Being discursive and fictitious.
- Including raw data or intermediate calculations.
- Presenting the same data or repeating the same information more than once.
- Confusing figures with tables

Discussion of Results

- The purpose of the discussion is to interpret and describe the significance of research findings in light of what was already known about the research problem being investigated, and to explain any new understanding or fresh insights about the problem after the findings must have been taken consideration.
- This section is often considered the most important part of a research paper because it most effectively demonstrates the ability of the researcher to think critically about an issue, to develop creative solutions to problems based on the findings, and to formulate a deeper, more profound understanding of the research problem under study.

Objectives of a Discussion Section

- Reiteration of the Research Problem/Statement of the Major Findings
- Explanation of the Meaning of the Findings and their significance
- Relation of the Findings to Similar Studies
- Consideration of Alternative Explanations for the Findings
- Acknowledgement of the Study's Limitations
- Suggestions for Further Research

Contents of a Discussion section

- Explanation of results
- References to previous research
- Deduction
- Hypothesis

Few rules

- Verbose or repetitions should be avoided.
- Points should be made in a concise and clear manner.
- Jargons should be avoided.
- A logical stream of thought should be followed.
- Present verb tense, especially for established facts should be used; however, specific works and references should be referred to in the past tense.
- If needed, subheadings should be used to help organize the presentation or to group interpretations into themes.

Referencing Styles

- Referencing or citing sources is an important part of academic writing. It lets a researcher acknowledge the ideas or words of others if used in his/her work and helps avoid plagiarism.
- Scholarly reference styles can be divided into three main categories:
 - documentary notes styles
 - parenthetical (or author-date) styles and
 - numbered styles

Documentary note styles

- Documentary-note citation systems references are given in footnotes or endnotes. The notes are indicated by digits, which then recur with the full reference at the bottom of the page (footnote) or after the entire text (endnote).
- Oxford and MHRA referencing styles belong to this category

Oxford Style

Consists of the following elements

- Citations in the body of the paper refer to footnotes at the bottom of the paper
- Footnotes provide the bibliographic details of a source and appear at the bottom of the page.
- A bibliography is a full list of sources cited in the text

Examples of Oxford style

- ¹ S. Kostof, *A history of architecture: settings and rituals*, 2nd edn, Oxford University Press, New York, 1995, p. 35.
- ² *ibid.* (used in a footnote where the immediately preceding footnote refers to the same source)
- ² *ibid.*, p. 45. (If it is the same source, but a different page, the page number should be added)
- 'op. cit.' is used to refer to a work previously cited that has a different page number. E.g. ³ Kostof, *op. cit.*, p. 46.
- 'loc. cit' is used to refer to the same page of a previously cited work. E.g. ⁴ Tansey & Kleiner, *loc. cit.*

Parenthetical styles or author-date styles

- In parenthetical, or author-date styles, in-text references are given within parentheses before the full stop of the sentence containing the reference.

It consists of

- APA,
- Harvard, and
- MLA reference styles

Harvard Style

- Book: single author
 - In-text: (Holt 1997) or Holt (1997) wrote that...
 - ❖ Reference list: Holt, DH 1997, *Management principle and practices*, Prentice-Hall, Sydney.
- Journal article:
 - In-text:(Goodhew et al. 2014)
 - ❖ Reference list: Goodhew, SC, Edwards, M, Boal, HL & Bell, J 2014, 'Two objects or one? Similarity rather than complexity determines objecthood when resolving dynamic input', *Journal of Experimental Psychology: Human Perception & Performance*. Available from: <http://dx.doi.org/10.1037/xhp0000022>. [14 September 2018].

APA (6th Edition)

- APA (American Psychological Association) Style consists of rules or guidelines that a publisher observes to ensure clear and consistent presentation of written material.
- It concerns uniform use of elements such as
 - selection of headings,
 - tone and length,
 - punctuation and abbreviations,
 - presentation of numbers and statistics,
 - construction of tables and figures, citation of references,

APA Reference style examples

- An article in a print journal:

Alibali, M. W. (1999). How children change their minds: Strategy change can be gradual or abrupt. *Developmental Psychology*, 35, 127-145.

- An article in a journal without DOI:

Carter, S., & Dunbar-Odom, D. (2009). The converging literacies center: An integrated model for writing programs. *Kairos: A Journal of Rhetoric, Technology, and Pedagogy*, 14(1), 38-48. Retrieved from <http://kairos.technorhetoric.net/>

- An article in a journal with DOI:

Gaudio, J. L., & Snowdon, C. T. (2008). Spatial cues more salient than color cues in cotton-top tamarins (*saguinus oedipus*) reversal learning. *Journal of Comparative Psychology*, 122, 441-444. doi: 10.1037/0735-7036.122.4.441

MLA (8th Edition)

- Modern Language Association (MLA) style for documentation is widely used in the humanities, especially in writing on language and literature. MLA style features brief parenthetical citations in the text keyed to an alphabetical list of works cited that appears at the end of the work.
- It follows this specific order:
 - Author.
 - Title of source.
 - Title of container,
 - Other contributors,
 - Version,
 - Number,
 - Publisher,
 - Publication date,
 - Location.

MLA Style examples

- Journal Article: Online

- In-text: (Berman;12)

- ❖ Reference list: Berman, Russell. "The Necessity of Language Learning." *ADFL Bulletin*, vol. 43, no. 2, 2015, pp. 11-14, doi:10.1632/adfl.43.2.11.[Where possible, cite a DOI (preceded by doi:) instead of a URL.]

- Journal Article: Electronic Database

- In-text:(Sie et al. 239)

- ❖ Reference list: Sie, I., M., et al. "Infection Control and Methicillin-Resistant Staphylococcus Aureus in Nursing Homes in Oslo." *Journal of Hospital Infection*, vol. 70, no. 3 2008, pp. 235-240. *Science Direct*, doi:10.1016/j.jhin.2008.06.009.

Numbered styles

- In numbered styles, sources are referred to with Arabic numbers within square brackets or in superscript, and the references are listed in a numbered reference list after the text. References are numbered in the order in which they first appear in the text. Vancouver and IEEE are numbered styles.
- Vancouver
 - A superscript number is inserted in your text at the point where source of information is referred to or cited.
 - Example:

It has been noted that performance does not always match expectations. ⁽⁵⁾

Bibliography: 5. Chhibber PK, Majumdar SK. Foreign ownership and profitability: Property rights, control, and the performance of firms in Indian industry. *Journal of Law & Economics* 1999;42(1): 209-238.

IEEE Style

- The Institute for Electrical and Electronics Engineers (IEEE) citation style includes in-text citations, numbered in square brackets, which refer to the full citation listed in the reference list at the end of the paper. The reference list is organized numerically, not alphabetically.
- Bracketed citations are placed within the line of text, before any punctuation, with a space before the first bracket.
- Sources are numbered as they are cited in the paper. Once cited and given a number, they should be maintained throughout the paper.
- When citing multiple sources at once, the preferred method is to list each number separately, in its own brackets, using a comma or dash between numbers, as such: [1], [3], [5] or [1] - [5].

IEEE examples

- **In-text citations:**

"...end of the line for my research [13]."

"This theory was first put forward in 1987 [1]."

- **Bibliography**

- Journal article: [1] J. U. Duncombe, "Infrared navigation - Part I: An assessment of feasibility," *IEEE Trans. Electron. Devices*, vol. ED-11, pp. 34-39, Jan. 1959.
- Thesis/Dissertation: [2] J. O. Williams, "Narrow-band analyzer," Ph.D. dissertation, Dept. Elect. Eng., Harvard Univ., Cambridge, MA, 1993.
- Patent: [3] J. P. Wilkinson, "Nonlinear resonant circuit devices," U.S. Patent 3 624 125, July 16, 1990.

References

- Day, R. A. & Gastel, B. (2006). How to write and publish a scientific paper (6th edn). Cambridge: Cambridge University Press.
- Swales, J. M. & Feak, C. B. (2004). Academic writing for graduate students (2nd edn). Ann Arbor, MI: University of Michigan Press.