

Interdisciplinary Winterschool 2019

How to Write a Research Paper

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Making an Outline

1. Select **topic**

- ✓ *that you feel passionate about*

2. Important questions:

- ✓ *Is there enough research available on this topic?*
- ✓ *Is the topic new and unique enough that I can offer fresh opinions, new contribution?*

3. Identify the **goal** of the paper

- ✓ *core objective/hypothesis*

Making an Outline

3. Begin your research

- ✓ ***Data:** Web pages, journal articles, books, academic databases, etc.*

4. Make an **Outline** (ca. 2-3 pages)

- ✓ *Motivation*
- ✓ *Core objective*
- ✓ *Method & major data/literature*
- ✓ *Work structure*
- ✓ *Discuss your outline with your supervisor*

5. Write your paper

Structure of a Research Paper

1. Title

- ✓ select an informative title

2. Abstract

- ✓ summary of your work
- ✓ ca. 300 words
- ✓ Incl. the rationale behind the study, method of approach, major results and conclusions

Structure of a Research Paper

3. Introduction

- ✓ Motivation
- ✓ Hypothesis, objective
- ✓ Literature (State-of-the-art)
- ✓ Structure of the work

4. Methodology

- ✓ Describe data used
- ✓ Describe methodology, formal framework (equations, models, etc.)

Structure of a Research Paper

5. Results

- ✓ Goal: to present and illustrate your findings
- ✓ Summarize your findings in text and illustrate them (figure, tables)
- ✓ Describe each of your results
- ✓ Analyse your data
- ✓ Support every statement you make with evidence!

6. Conclusion

- ✓ Briefly summarize your findings
- ✓ Answer the question

Structure of a Research Paper

7. References

- ✓ List all literature cited in your paper

Examples:

Reference to a journal publication:

[1] Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., 2010. The art of writing a scientific article. *J. Sci. Commun.* 163, 51–59.

Reference to a book:

[2] Strunk Jr., W., White, E.B., 2000. *The Elements of Style*, fourth ed. Longman, New York.

Reference to a chapter in an edited book:

[3] Mettam, G.R., Adams, L.B., 2009. How to prepare an electronic version of your article, in: Jones, B.S., Smith, R.Z. (Eds.), *Introduction to the Electronic Age*. E-Publishing Inc., New York, pp. 281–304.

Your Research Paper

1. Title
2. Abstract
3. Introduction
4. Methodology

