

# Technique of scientific work

Dr. Felix Stübben

Otto-Friedrich-Universität Bamberg

*[felix.stuebben@uni-bamberg.de](mailto:felix.stuebben@uni-bamberg.de)*

# Overview

1 General information

2 Structure of a seminar paper

3 Writing style

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6 Quoting

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References

## Objectives of this presentation

- ▶ What constitutes a scientific paper?
- ▶ What rules apply?
- ▶ How do you quote correctly?
- ▶ What are common mistakes?

## Scheduling

- ▶ Literature research and review (ca. 30%)
- ▶ Outline and key points (ca. 25%)
- ▶ Writing the paper (ca. 35%)
- ▶ Correction and layout (ca. 10%)

# Structure of a seminar paper

## Basic structure

- ▶ Cover page
  - ▶ Course details (university, faculty, semester, title and lecturer of the course)
  - ▶ Title of the paper
  - ▶ Personal details (name, semester, matriculation number, e-mail address, other details if applicable)
- ▶ Table of contents
- ▶ List of symbols, abbreviations, tables and figures, if applicable
- ▶ Text part (introduction, main part, conclusion)
- ▶ Bibliography
- ▶ Appendix, if applicable
- ▶ Affidavit

# Introduction

- ▶ Introduction (approx. 1-2 pages)
  - ▶ Introduction to the topic
  - ▶ Research question
  - ▶ Brief references to the theories used
  - ▶ Current literature
  - ▶ Procedure for dealing with the research question
  - ▶ Present the structure of the work

# Main part

- ▶ Main part
  - ▶ Theory section (definitions and clarification of terms, presentation of theories used)
  - ▶ Current state of research
    - ▶ Which authors write on my topic?
    - ▶ Present related studies
    - ▶ Current discussions regarding the research question
  - ▶ Present results in relation to the research question



# Conclusion

- ▶ Conclusion
  - ▶ Summary of the results (short)
  - ▶ Discussion of the results in relation to the current state of research
  - ▶ Referring to the introduction and answering the research question
  - ▶ Limitations of the work
  - ▶ Open questions for future research

## Structure levels

- ▶ Maximum depth of structure: 3 levels
- ▶ A section with a subsection is pointless!
- ▶ Structure points at the same level should also be attached to the same level of analysis in terms of content (logically of the same rank)

# Writing style

## Writing style

- ▶ Definition of technical terms
- ▶ Neutrality (not 'I' and 'we')
- ▶ Objectivity (assertions must be substantiated)
- ▶ No colloquial language or rhetorical questions
- ▶ No filler words (well, arguably)
- ▶ Avoid repetition of words
- ▶ No nested sentences
- ▶ Write precisely and comprehensibly

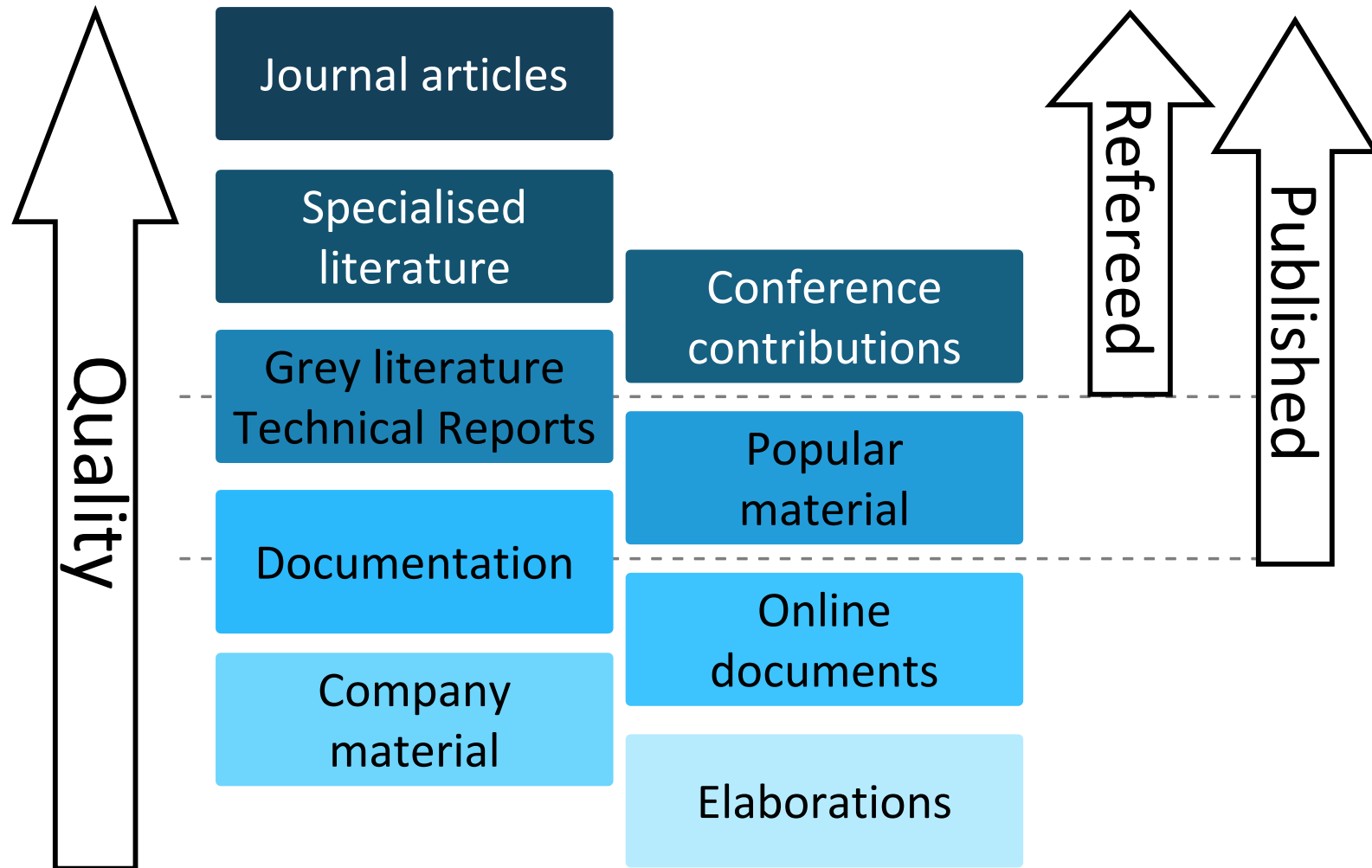
'If you can't say it simply and clearly, keep quiet and keep working until you can.' (Popper 1991: 100)

## Figures and tables

- ▶ Use figures and tables where they facilitate understanding of the text, otherwise in the appendix.
- ▶ Consecutive numbering ('Table 1' or 'Figure 1')
- ▶ Always refer to the specific table/figure in the text, e.g. 'As can be seen in Figure 5,...'
- ▶ If necessary, label the figures and tables with a title and/or a brief explanation
- ▶ Uniform form (all in colour or all black and white)
- ▶ Axis labelling for figures

# Literature research

## Possible sources I



## Possible sources II

### ▶ **Primary literature (original theories and concepts)**

- ▶ Journal articles
- ▶ Government programmes, Bundestag debates
- ▶ Working papers, discussion papers
- ▶ Dissertations, post-doctoral theses

### ▶ **Secondary literature**

- ▶ Literature on primary literature
- ▶ Collected works
- ▶ Specialised literature, Handbooks
- ▶ Festschriften



## Possible sources III

### ▶ **Tertiary literature**

- ▶ Textbooks
  - ▶ Non-academic newspaper articles
  - ▶ Encyclopaedias
- ▶ For explanations of terms: Specialised dictionaries, e.g. HdWW, Gabler Wirtschaftslexikon (better than primary literature)

# Forms of literature research I

## ► Snowballing

- Starting point: easily available literature (e.g. known texts from the seminar)
- Go through the bibliography
- Mark and obtain interesting titles
- Go through new literature and search for further interesting literature in the bibliography, etc.

## Forms of literature research II

- ▶ Database research
  - ▶ Search for literature in databases using keywords
  - ▶ e.g. JSTOR, EconBiz, OECD Statistics, SSCI, ECONIS, ECONLIT,
  - ▶ EBSCOHost, Google Scholar
  - ▶ Online catalogue of the University Library:  
<https://katalog.ub.uni-bamberg.de/ubg-www/Katalog/>,  
Bamberger Katalog (OPAC)
- ▶ Note: Many journals can be accessed online via the EZB (Electronic Journals Library) function.
- ▶ Websites of research institutes (DIW, IAB, IMK, ZEW, ifo etc.)
- ▶ Interlibrary loan (books free of charge, articles for a fee or via subito)

## Search strategies in the Bamberg catalogue

- ▶ Before the search: Think about keywords and subject headings
- ▶ Also synonyms or superordinate and related terms
- ▶ Find literature using simple search or advanced search (keyword)
- ▶ Tips for increasing the number of hits:
  - ▶ Truncation: 'climate\*' instead of 'climate change'
  - ▶ Use of OP operators: 'euro crisis' OR 'debt crisis' OR ...

## Access to the online databases

- ▶ If you are logged into the university network.
- ▶ VPN connection : <https://www.uni-bamberg.de/its/dienstleistungen/netz/vpn/>

## Courses offered by the Bamberg University Library

- ▶ Basic library course
- ▶ Database research
- ▶ Finding, evaluating and citing internet sources
- ▶ Professional research
- ▶ Citavi courses

- ▶ **Registration required**

<https://www.uni-bamberg.de/en/library/courses-tutorials/>

## No-Gos

- ▶ Focus, Spiegel, Wirtschaftswoche, WISU etc.
- ▶ Paraliterature
- ▶ Internet sites such as Wikipedia
- ▶ Lecture notes
- ▶ Exceptions are possible

## Summary: Literature research

- ▶ Reading the given texts as an introduction
- ▶ Bibliographies to find further relevant texts (snowballing)
- ▶ Additional research in the university library and on the Internet
- ▶ Record text excerpts and ideas, preferably electronically with a complete bibliography



# Literature review

# Literature review I

- ▶ Viewing the document
  - ▶ Table of contents, index or abstract
  - ▶ Read introduction and summary (relevance?)
- ▶ Read or cross-read potentially productive sections of the text  
→ Decide in favour of or against close examination
- ▶ Analytical-critical reading (What are the results of the study?)
- ▶ Excerpt texts/sections

## Literature review II- Excerpt

- ▶ Read the text and note down the topic, core theses and facts
- ▶ Objective: To summarize key statements in your own words
- ▶ Various components:
  - ▶ Research question
  - ▶ Intellectual and literal borrowings
  - ▶ References to literature
  - ▶ Own ideas, positions, comments, cross-references
  - ▶ Short summary of the text (max. 1/2 page)

# Quoting

## Quotes and sources

- ▶ Thoughts of others must be labelled as such
- ▶ Reason: Authorship and verifiability → exact source citation
- ▶ Principle: Always cite the original source.
- ▶ Principle: Always cite the published version (e.g. in journals).

# Verbatim quoting

Verbatim quote:

- ▶ Direct, unchanged
- ▶ With quotation marks in the text
- ▶ Use sparingly
- ▶ Changes to the quotation:
  - ▶ Omissions with[...]
  - ▶ Add: [the]
  - ▶ Error in the original: [:sic!]
  - ▶ Take over emphasis in the original
  - ▶ Point out your own emphasis

# Paraphrasing

Quoting in substance:

- ▶ Indirect, reproduction in own words
- ▶ Rearranging parts of sentences or exchanging individual words is not sufficient
- ▶ Verbatim translation from a foreign language is also **not** a Paraphrase

# Systematics

- ▶ Short reference in the footnote
  - ▶ Author (year), page number, e.g: Mustermann (2013), p. 629.
- ▶ Harvard referencing
  - ▶ (author year, page number), e.g: Text Text Text (Mustermann 2013, p. 629),  
or (author year: page number), e.g. Text Text Text (Mustermann 2013: 629)

IMPORTANT: Standardised!



# Systematics

In general:

- ▶ In the case of several publications by one author from one year: Place lower case letters after the year → Krugman (2008a), Krugman (2008b)
- ▶ More than 3 authors: Only the first author with the addition et al. (nevertheless list them all in the bibliography)
- ▶ For citations over 2 pages: p. 233f; 3-5 pages: p. 233ff; more: p. first - last

# Bibliography

# Bibliography I

- ▶ Indirectly or directly cited literature should be included as full references in the bibliography.
- ▶ Alphabetically sorted by the author's surname
- ▶ List all authors of a source (not et al.!!)
- ▶ There are various options here. The form presented here is one of the most commonly used rules.
- ▶ Use a standardised form in the bibliography
- ▶ **Monograph:** Surname, first name (year): Title. Subtitle. Edition. Place: Publisher.  
  
Gandolfo, G. (2019): Economic Dynamics. Berlin: Springer.

## Bibliography II

- **Anthology:** Surname, first name (year): Title of the contribution. In: Editor's name, first name (ed.): Book title. Subtitle. Edition. Place: Publisher, pages.

Bender, D. (2020): Nettoinvestition, Lohnbildung und Beschäftigung bei flexiblen Wechselkursen. In: Feldsieper, M., Groß, R. (ed.): Wirtschaftspolitik in weltoffener Wirtschaft. Berlin: Verlag Duncker & Humbolt. p. 29 - 45.

## Bibliography III

- **Journal:** Surname, first name (year): Title of the article. In: Name of the journal, year (issue number), pages.

Borchert, M. (2019): Einige außenwirtschaftliche Aspekte staatlicher Verschuldung. In: *Kredit und Kapital*, 2019(16), p. 513 - 527.

## Bibliography IV

- ▶ **Working Paper:** Surname, first name (year): Title of the working paper. Series number of the working paper. Place: Institution.

Gregory, T., Salomons, A. and Zierahn, U. (2018): Racing With or Against the Machine? Evidence from Europe. CESifo Working Paper No. 7247. Mu"nchen: CESifo.

## Bibliography V

- ▶ **Internet pages:** all information (where available) as for other publications, plus URL and access date

Krugman, P.R.: Currency Crises, In:  
<http://web.mit.edu/krugman/www/crises.html>, accessed  
on 01.10.2020.

# Tips and hints



## Tips and hints I

- ▶ Only write the introduction at the end
- ▶ Keep the research question in mind throughout the paper and return to it in the conclusion.
- ▶ Write short introductions/ overviews to the individual chapters
  - ▶ What is done in this chapter?
  - ▶ How does the chapter fit into the overall structure of the work?
- ▶ Sensible categorisation of the paragraphs!

## Tips and hints II

- ▶ The amount of literature to be used depends on the topic and the state of research in the respective field.
- ▶ A sensible structure of the seminar paper from the beginning facilitates the work (later adjustments are possible).
- ▶ Unlabelled direct and indirect quotations are plagiarism.

## Tips and hints III

- ▶ Derive an objective and neutral writing style from other scientific publications.
- ▶ Writer's block?
  - ▶ Talking instead of writing: Either you tell yourself the planned content of your seminar paper or you tell a friend about your seminar paper → At the end, write down and structure what you have said.
  - ▶ Write down your thoughts on one point or another in an unstructured way for about 20 minutes without paying attention to logic, structure and spelling → After repeating 2-3 times, try to structure what you have written.

Have fun & success with your writing!  
Questions?