
Guidelines Thesis Preparation

Department of Psychology
University of Fribourg
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1. Colloquium

The colloquium serves to **accompany** students in the preparation of the Bachelor/Master thesis. The supervisor of the thesis is responsible for defining the format (e.g. group meetings, single person meetings etc.) and the frequency of the colloquium. Also the contents and deadlines are to be discussed with the supervisor. A **regular and active participation** is expected. Absences have to be compensated by summarising the topics discussed (with the accord of the supervisor). The colloquium is validated with pass / fail.

For BA students, validation of the colloquium encompasses active participation and fulfilling the requirement for the experimental self-experiences («30 heures de formation personnelle à la recherche»; «30 Versuchspersonenstunden»). All 30 hours need to be signed by a staff member of the Department. Only one long experiment (5 – max. 10 hours) is allowed. All other studies can count max. 4 hours. The fulfilment of the requirements needs to be verified by the supervisor.

2. Course « Advanced Methods » (BA thesis only)

The Course “Advanced Methods” (Modul 8, « *Méthodes de recherche avancée* »; « *Fortgeschrittene Forschungsmethoden* ») is offered accompanying an empirical BA thesis. The supervisor is responsible to decide whether a certain BA thesis is eligible for following the course «Advanced Methods» or not. The decision needs to be taken and communicated before a student starts a BA project. Only BA projects that require empirical data analysis are eligible for this course, an exclusively literature-based thesis is not. The course “Advanced Methods” (6 ECTS) is conducted individually within the BA project and reflects the additional demands for empirical BA projects in collecting and analyzing empirical data and discussing the procedures and results with the supervisor. The course is validated with a grade. The grade is identical to the grade of the BA thesis.

3. Thesis

In general, the Bachelor/Master thesis is an empirical study. This means that within the framework of the thesis a scientific research question is formulated and empirically answered on the basis of one’s own experimental data. With an exclusively literature-based Bachelor thesis, the procedure is different and has to be discussed with the supervisor.

The most important aspects in composing a scientific article are:

- Literature review on the topic
- Critical examination of the current research results
- Incorporation of one’s own research question within the existing scientific context
- Clear and coherent writing

An article in a scientific journal should serve as a model for the thesis.

An **empirical thesis** consists of the following sections (APA, 2010, p. 10):

- 1) Introduction: Defining the problem which is the topic of the thesis
- 2) Theory: relevant theories, methodological approaches and empirical findings on the topic
- 3) Method: The procedure used in the investigation
- 4) Results: Results along with their statistical analysis
- 5) Discussion: Results are briefly summarized and interpreted in the context of the literature cited and their practical and theoretical implications discussed.

An exclusively **literature-based thesis** differs in so far as the results section reports a selection of existing publications on the chosen topic and summarises their most important substantial and methodological aspects. The detailed criteria regarding the structure are to be discussed with the thesis supervisor.

3.1. Title page

The title page displays the following information (APA, 2010, p.23):

- Title (simple, concise, includes the most important aspects, self-explaining)
 - Title is centred on the upper half of the title sheet.
- Type (Bachelor Thesis, Master Thesis)
- Name, matriculation code
- Author's contact details (address, mail address)
- Name of the supervising unit and of the supervisor(s)
- Date of submission

3.2. Table of Contents

Objective: structuring the content on different levels and providing page numbers.

Important:

- The layout has to follow APA conventions (with few exceptions that are indicated).
- The entire thesis has a hierarchical structure (typically two to three sub-levels)
- The heading levels are numbered accordingly (this deviates from the APA guidelines, APA, 2010)

3.3. Abstract

Objective: State the research question, method, findings, and main conclusion as briefly as possible (max. 200 words).

Important:

- Abstract should follow the APA guidelines
- Each sentence is maximally informative and objective
- It can be understood without specific expertise
- Short description of the most important concepts and findings along with their implications

- Abstract can optionally be written in a second language (English, French, ...)

3.4. Introduction

Objective: to justify the relevance of the research question and to elaborate the theoretical context in which it is embedded.

Important:

- It should stimulate the interest of the target group
- It should give a good overview of the structure of the thesis
- The objective of the thesis should be clear early on (preferably on page 1)
- The following questions should be answered (APA, 2010, p. 28):
 - o Why is the problem important?
 - o How has the problem been treated previously?
 - o How is it tackled in this thesis?

3.4.1. Theoretical and empirical background

Objective: Presentation of scientific literature dealing with the topic chosen.

Important:

- Outline relevant theoretical models, possible methodological approaches and important empirical findings
- Prepare the ground for and justify your research question(s) and the derivation of each hypothesis
- References to contributions in textbooks and manuals, reviews and original empirical papers
- With focus on the hypotheses and the planned study: the **relevance** of all the studies mentioned for the present study should be clear and recognizable
- Sections are not loosely strung together, but with transitions that don't lose touch with the central question of the thesis to create cohesion

3.4.2. Deriving the research question

Objective: To develop the research question based on the theoretical overview presented.

The following questions should be answered:

- Why is the research question significant?
- How does your work help to solve the research problem initially identified?
- What are the requirements for the study to be carried out?

As preliminary answers to the research question, precise hypotheses should be formulated, which are again briefly grounded by reference to the literature cited.

3.5. Methods

Objective: Exact description of the methodological procedure. The target audience should be able to assess the suitability of the applied methods (based on their validity and reliability).

Important:

- Concise, yet enough information is provided to allow the study to be reproduced
- The following points (2.5.1 - 2.5.4.) must be addressed

3.5.1. Sample (Participant characteristics)

Objective: Concise, but comprehensive description of the following points:

- Recruitment of participants, with justification for this procedure
- Size and composition of the sample (if applicable, number of participants in each condition, e.g., experimental vs. control condition)
- The most important characteristics of the sample, such as proportion of women / men, average age and age range, socioeconomic status, level of education, job tenure, (...). Sometimes, a table may give a better overview.
- In general, information about those characteristics of the sample population that are important for the own research question.

3.5.2. Measurement and procedure

Objective: Detailed description of the procedure so that the study can be replicated

Observational Studies	Experimental Studies
<ul style="list-style-type: none"> • Describe measures used (number of items, response scale, sample item) • Specify the reliability and validity of the instruments (for self-developed instruments, information on construct validity) • If applicable: Sequence in which the instruments were presented, with justifications if needed 	<ul style="list-style-type: none"> • Describe stimuli used and experimental materials (including dimensions, type of computer / screen on which stimuli were presented, ...) • Describe equipment and experimental setting • Describe procedure step by step (Carried out where and how long? Once or intermittently? Was the experimenter present? Were there practice trials? ...) • Instructions and directions for the participants (longer instructions can be moved to an appendix) • Describe the experimental design (including the procedure for assigning conditions) • Describe the measuring tools used • If applicable: Manipulation check

3.5.3. Statistical Evaluation.

Objective: To describe the statistical methods and the software used.

Important:

- Describe specific methods in more detail

3.6. Results

- Descriptive statistics (including highlighting what is **conspicuous** about averages, variances, etc.)
- Review of prerequisites for statistical analyses (e.g., normal distribution)
- For each analysis, clearly describe which statistical method and data were used (explaining outliers and exclusions where appropriate), and explicitly mention the independent (or predictors) and dependent variables (or criteria).
- For each significant result, also describe the direction of the effect (by presenting means, tables, or graphs).
- The statistical terms (including effect sizes) are correctly and completely described (*italics*, punctuation, etc.).
- Tables and illustrations conform to the APA guidelines and are labeled accordingly.
- All results shown in tables and graphs are explicitly mentioned in the text.

3.7. Discussion

Objective: Highlighting and interpreting the most important results of the study against the background of the literature referenced.

Important:

- Short summary
- Discussion, in terms of the formulated hypotheses (whether the findings are consistent with them – or not – and why)
- Discussion with respect to the relevant literature reviewed in the introduction
- Identification of **important** shortcomings or deficits of the study, as well as limitations in the execution (e.g. to what extent limitations in the interpretation of the results are due to the operationalization (construct validity), the sample (external validity), the experimental design, and the control of confounds (internal validity), as well as the analyses (statistical validity)
- Derive conclusions for further research or practical applications

3.8. Bibliography

Objective: To cover all important information for identifying and retrieving the sources cited (APA, 2010, p. 180).

Important:

- The bibliography should only list sources that were actually cited in the text and vice versa
- Citation programs (such as EndNote, Citavi, Bookends, Reference Manager, Zotero, etc.) facilitate the input of references (e.g., according to APA) but should be double checked (they may contain errors or incomplete information)

3.9. Appendix

Objective: To present all materials that would be too extensive or complicated to present in the text.

Important:

- All attached materials / illustrations must be carefully and consistently labeled
- The titles use capital letters (for example, Appendix A) in the same sequence as the references in the text

4. Expression and style

Objective: The work is intended to provide knowledgeable readers with the research results in an interesting manner.

Important:

- Clear and coherent writing
- Reflective and neutral style of expression
- The thesis should be written in the past tense. The present tense should only be used for general conclusions (see instructions of APA concerning the tenses).
- Specific scientific terms are briefly explained and consistently used.
- Use English terms if (and **only** if) there is no suitable equivalent in the language in which you write.
- Prejudice-free language: no discrimination against gender, ethnicity, religion, etc.
- No use of colloquialisms or slang
- Sentences that contain expressions such as "previous studies" (or "previous research"; "many studies indicate that ...") require an in-text reference or at least two-three representative references (e.g., Goodenow, 1990; ...)
- Abbreviations of any kind must be clearly defined, even if they are common (Abb. in brackets). Avoid too many abbreviations (do not abbreviate, if you only use the term 3-4 times). Exceptions: statistical characteristics (e.g., M, SD) as well as IV, DV, ...

5. Formal layout and length

The bachelor thesis should include 25-30 DIN-A4 pages (including bibliography).

Important:

- Font size: 12 pt
- Font: Times New Roman
- Line spacing: 1.5 (unlike APA guidelines!)
- Margins: APA conform

The layout and structure of the bachelor thesis are based on the guidelines for manuscript layout of the American Psychological Association (2010, see also <https://www.apastyle.org/jars/>).

6. Notes on the literature search

Objective: Thorough research before starting the thesis to determine whether the intended research question or study represents a meaningful contribution in the respective field of research.

Important:

- It is recommended to use established databases such as PubMed, Psynindex, Psycinfo, Web of Science
- Start with the definition of search term(s) or word combinations
- If possible, start with the most recent articles (from the last decade) and depending on what is discovered extend back to older research
- Iterative procedure: once you have become more familiar with the topic, you come across more authors, concepts, and search terms.

7. Bibliography

American Psychological Association (2010). *Publication manual of the American Psychological Association* (6. ed., 2. print.). Washington, DC: American Psychological Association.

Appendix

A) Evaluation Criteria

Specific content criteria

Title, Abstract, Table of contents.

The title of the thesis is concise and meaningful.

In the abstract, the objective, method, main results and conclusion are summarized briefly and succinctly.

The thesis is comprehensibly arranged and structured. The individual sections are succinctly titled.

Introduction

The problem is described and the purpose of the work derived and justified.

Theory

The central terms and concepts are defined.

The theoretical approaches relevant for the research question are presented.

The state of research relevant to understanding of the problem is dealt with

The research question (s) / hypotheses follow from the presentation of the state of research.

The questions and hypotheses are original and scientifically significant

Method

The sample is described appropriately (inclusion criteria, recruitment, relevant characteristics of the participants)

The investigation procedure is described and understandable.

The study design and the operationalization of the collected variables / concepts are described adequately.

Results

The data are prepared and analysed appropriately.

All relevant statistics are displayed correctly and clearly.

The results are reported systematically, succinctly and correct.

Discussion

The results are summarized succinctly and it is explained what they mean for the research question or hypothesis.

The results are interpreted against the background of the relevant literature.

Methodological limitations of the results are discussed appropriately.

The (practical) relevance of the results is discussed

Overarching content and formal criteria

Theme und Reflection

The individual contents are related to each other and appropriate for answering the research question or testing the hypotheses.

Linguistic expression and spelling

The choice of words, expression is factual, concise, and understandable. The argumentation is conclusive.

The thesis complies with spelling, grammar, and punctuation rules

Presentation

The thesis is clearly and correctly laid out.

Illustrations and tables are illustrative and support the understanding of the research.

Citation and bibliography (according to manuscript guidelines)

The citations given in the text are formally correct.

The bibliography is complete and corresponds to the formal requirements.

Ethics Application

Documents for the ethics application are appropriately formulated.

Documents for the ethics application are complete.

Process Criteria

Independence, commitment and reliability

Independence and commitment in writing the ethics application.

Independence and commitment in the literature research and literature presentation.

Independence and engagement in the preparation or concretization of the research question(s) / hypotheses.

Independence and engagement in the recruitment of participants and conduct of the investigation.

Diligent and reliable data collection.

Conscientiousness and reliability in data preparation and analysis.

Independence in the interpretation and critical reflection of the results.

B) Timetable for **Bachelor Thesis** (Target dates)

Topic assignment	June
Contact and initial meeting with the supervisor	June / July
Independent literature search and reading on the topic, selection of a research question.	July - October
Bachelor colloquium	September - May
Submission & presentation of the outline (exposé) with theoretical background, research question, hypotheses, expected results (graphically supported). The expose must be no longer than two pages.	October - November
Feedback from the supervisor	November - December
Submission of an ethics application in accordance with the guidelines of the ethics committee of the department to the supervisor	January
Submission of the first version of the bachelor thesis to the supervisor	xx April
Feedback from the supervisor for the 1st version	April
<p>Submission of a bound copy of the final version (not with "rings", but properly bound) plus electronic copies (USB stick, CD, ...) of:</p> <ul style="list-style-type: none"> • PDF version of the thesis • Collected raw data (but not EEG files) • Data file with clearly labeled variables • Syntax of statistical analyses (SPSS, R, ...) • Output of statistical analyses • Literature referenced (if electronically available) • Supplementary material (all questionnaires, analysis, ...) • Request for ethics committee <p>Signed statement of independence within the printed version of the bachelor thesis</p> <p>Along with the bachelor thesis the course sheet (original) is required that confirms that the author has completed the minimum study-participant hours.</p> <p>Where: to supervisor directly (CD, stick with data!) or mail box outside of central secretariat (print version)</p>	May

Submission of grading and evaluation	May/ June
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C) Presentation

Objective: A comprehensive, but brief summary of the study planned.

1. Thesis title
2. Derivation of the relevance of the question on the basis of the current state of research
3. Formulation and justification of the hypotheses
4. Method for investigating the research question and testing the hypotheses:
 - a. Planned sample (inclusion / exclusion criteria, size), recruiting strategy
 - b. Study design, procedure
 - c. Operationalization of constructs
5. Schedule
6. Relevant literature
7. Provisional table of contents of the thesis

D) Statement of independence

Hereby I assure to have written this paper on my own and I have used no unauthorized means to do so. I have declared as such and marked citations to the best of my ability, according to the standard scientific practices, all sections that are taken word for word or paraphrased from other sources (e.g. books, journals, newspapers, encyclopaedias, internet etc.). This is also true for tables, sketches, pictorial presentations etc. I have used no aids other than those mentioned.

Place, Date

Signature