

Graduation - Writing Thesis

Writing a thesis

What is a thesis?

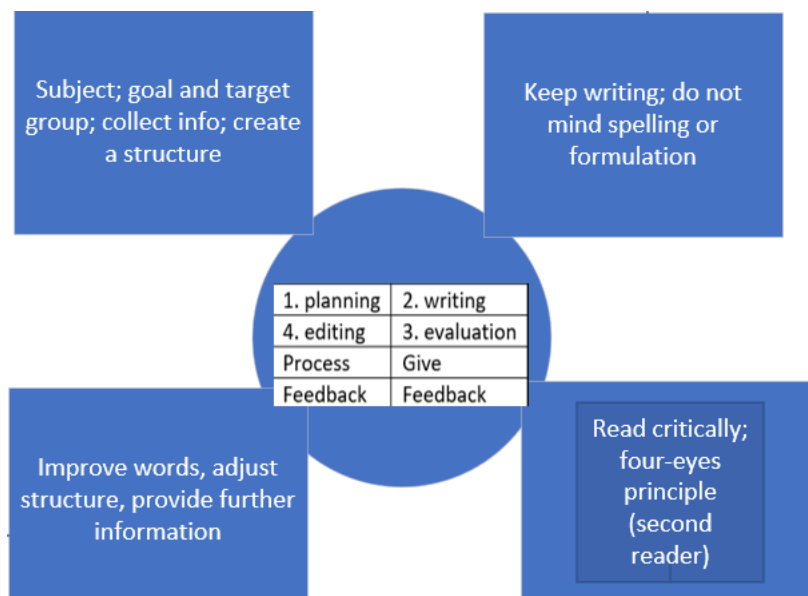
A thesis is a report of a research project or internship. The thesis is the conclusion of your study programme. Final paper or dissertation are other words used instead of thesis. A higher education thesis often focuses on advice to solve a practical problem. A university thesis is often a report of an independently conducted scientific research project.

Preliminary investigation

Before you start your research and writing your thesis, you need to do preliminary research. For example, you need to choose a client, determine the topic, work on the problem orientation, draw up your central question and sub-questions and come up with your research design. This preliminary research is an important element of writing a good thesis. You can describe this preliminary research in a plan of approach. As soon as the plan of approach is approved by your supervisor, you can start working on your thesis.

Thesis writing phases

When writing your thesis, you will go through a number of stages: collecting ideas, choosing a topic, start to write, revise, and publish your text. If you go through these writing stages consciously, your writing product will get better and better, and more complete.



(Source: after Flower (1993) and Loomans & De Geus (2003))

Phase 1 plans and designs

Brainstorm

Once you have chosen your topic and discussed it with your thesis supervisor, it is time for the first step: hold a brainstorm about the topic. The idea behind this is that in this way you will gather as many ideas related to the topic as possible and explore the boundaries of your research.

Brainstorming can be done in many ways, such as using a mind map.

Brainstorming can be a good tool to use at this stage of your thesis. You can use it to expand on your topic and make connections.

Here's how it works:

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Take a paper and write the subject in the centre of the sheet. Now associate freely and keep drawing lines that you can reconnect. This way, you can see quite quickly which associations generate a lot of ideas and which ideas lead to nothing.

You can use mind maps not only as a brainstorming technique, but also as a way of making summaries. Useful if you read a lot of literature for your theoretical framework and don't yet know exactly what you can use and what you will discard.

These underlying principles apply to all brainstorming techniques:

- Postpone criticism: to gather as many ideas as possible, do not yet judge or criticise the ideas. So, everything is fine at this stage.
- The more ideas the better; in this phase you aim for quantity.
- Make as many associations as possible, the wilder the ideas, the better.
- Try to hook on to already mentioned ideas and try to expand on them.

Watch the [film](#) on different brainstorming techniques.

Describe your problem analysis

Formulating the problem analysis is the most important part of your research. Only when you have a good problem analysis will it be clear which direction your research will take. So set aside enough time for this.

While carrying out a problem analysis, you do preliminary research, so to speak, to define the subject. This means you make choices: after all, you can't research everything. You decide what you will and will not include in your research: the common thread, your focus.

Important questions when formulating your problem analysis:

- Does the research fit within the context of your study programme?
- Do you have a clear idea of the problem and the reason for the problem?
- Is your problem analysis concise and complete with source citations?

Your client has a problem (or a question/wish): a problem exists when the current situation and the desired situation do not match. Your job is to find a solution to the problem. You therefore first consider why and for whom it is a problem. By doing so, you make the problem understandable; you delve into the problem. You map out the background to the problem. The following questions can help you properly define the problem analysis (Verhoeven 2007):

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Auxiliary questions (Six Ws)

1. *What* is the problem? Look at what is not desirable or unacceptable.
2. *Who* has the problem? Look at whose problem it is: who are the people involved?
3. *When* is it a problem? Look at when the problem arose or when occurs.
4. *Why* is it a problem? Try to find out what the consequences of the problem are.
5. *Where* does the problem occur? Look at whether you can identify certain problem areas, which places, areas, parts are more or less important?
6. *What* is the reasoning, or trigger? Look at how the problem arose. Find out the history of the issue.

For an example of an elaborated problem analysis, click [here](#).

Define your objective

The objective flows from the problem analysis. There is a clear connection between the problem analysis and the objective. With the objective, you ask yourself *why* you are doing this research. The objective is the reason for your research. This is because the information you present in the research has a purpose. What do you want to achieve with this information? Here it is important to realise that you are not so much solving the practical problem as providing information that can be used by others to solve the problem.

Need help formulating your objective? Then take a look at the formulations below:

- The objective of the study is to gain greater insight into ... so that/for/why/
[*what can the client achieve with this information?*]
- The objective of the study is to acquire/gather knowledge about ... so that/for/why/
[*what can the client achieve with this information?*]
- The objective of the study is to better understand ... so that/for/why/
[*what can the client achieve with this information?*].
- Other possible formulations are:
- The purpose of this study is ...
- The aim of this experiment is to investigate whether and to what extent the hypotheses hold true for ...
- This study is a first step to see to what extent ...
- This study examines the relationship between ... and ...
- This survey offers insight into the extent to which ...

Define your main question

The central question, also called main question, is the main question to answer in your thesis. How do you formulate your central question? Consider the following guidelines:

- Target
It is important that your central question clearly states the purpose of your thesis. This gives clarity on the next steps you will take in your research.
- Not too broad
It is important to formulate your central question carefully. Delineate the topic, as you did with the problem analysis.
- Neutrality
Make sure you formulate your central question objectively. This means not incorporating your point of view into your central question and not using biased terms.
- One single question
The central question should consist only of a main question. To answer the central question, you draft sub-questions, but you do not incorporate these into your central question.

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Examples of good and bad main questions

Want to see what a well-formulated main question looks like? And how not to formulate a main question? [Here](#) is a comprehensive overview of correct and incorrect main questions.

Draft your sub-questions

Once you have formulated the central question, the sub-questions are next. Sub-questions are derived from the central question and all address part of the central question. In short, they are the sub-questions of your main question. When you have answered all the sub-questions, you have automatically answered the central question. Sub-questions often form the chapters of your thesis.

You will answer some sub-questions by consulting theory. You will address these sub-questions in the theoretical framework. Some sub-questions you will answer through your empirical research.

How many sub-questions should you prepare?

The number of compulsory sub-questions you should use has not been specified. Often, the more complex your topic is, the more sub-questions you need. Try to limit yourself to 4 to 6 sub-questions. If you feel you need more sub-questions, it may mean that your central question is not concrete enough. It may be advisable to revisit your central question and objective and rephrase them more precisely where necessary.

Hypotheses instead of sub-questions

Instead of sub-questions, you can also work with *hypotheses*. Hypotheses are preliminary statements that you want to test in your thesis. In other words, you indicate what you expect to find in your research. Through scientific research, you test your hypotheses, which you have drawn up prior to your research.

If you want to know more about hypothesis formulation and testing and examples of good hypotheses, Check [here](#).

What are good sub-questions?

- The sub-questions are less complex than the main question.
- Collectively, they provide the full answer to the central question.
- There should not be an overlap.
- They are often in a (chrono)logical order.
- You often start with the *descriptive* and *comparative* sub-questions.
- They are relevant (they include concepts from the problem analysis and the central question; no new issues are raised).

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Checklist for formulating the central question and sub-questions

The main question is the central question you try to answer in the research.	yes/no
The main question aligns with the client's question.	yes/no
The main question aligns with the purpose of the assignment.	yes/no
The main question is clearly defined (the topic, period or research area are clearly indicated).	yes/no
The main question is an open question (not a yes/no question).	yes/no
The main question is a single question.	yes/no
The main question and sub-questions are formulated objectively.	yes/no
The sub-questions do not address new topics.	yes/no
The sub-questions each cover a different aspect of the topic.	yes/no
If all the sub-questions have been answered, then the central question should have an answer as well.	yes/no
The sub-questions are in a (chrono)logical order.	yes/no
Answering the main and sub-questions is feasible within the allotted time.	yes/no
Answering the main and sub-questions is feasible with the available resources.	yes/no

Define your research method

Once you have formulated your central question and your sub-questions, you can then start looking for the most appropriate research method. Choose a research method that fits well with the questions. You can choose qualitative research, quantitative research, or a combination of these two forms.

Qualitative research is subjective. It is not about facts and figures, but about the 'why' and about the 'how' question. Quantitative research, on the other hand, is objective and focuses on numbers. Sometimes a combination of both forms is the most appropriate research method. The outcomes of qualitative research are described in words; the outcomes of quantitative research are described in figures. You describe the outcomes of an interview in words: so, this is a qualitative research method.

You can display answers to questionnaires in percentages, for example. Conducting surveys is a quantitative research method. With quantitative research, you find out what your target group thinks or does, and with qualitative research why the target group thinks or does something.

The disadvantage of qualitative research is that you can never be completely objective. For example, as an interviewer, you always have certain ideas and opinions that you (unconsciously) include in your research anyway. The advantage of qualitative research is that you can gather in-depth information about, for instance, behaviour or emotions. Some of the most common qualitative and quantitative research methods are described below.

Qualitative research methods	Quantitative research methods
Use words to describe the data you collected. You as the researcher have great influence, because the interpretation of the data lies with you.	Display the data you collected by means of figures. You can use software programmes to analyse the data.
Interviews and group discussions	Surveys
Literature survey	Experimental research
Casestudies	Analyses
Observation	

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Search for literature

As a basis for your research, you use literature from others that you combine or apply to arrive at your own insights. This requires literature research. Look for publications with sufficient academic depth. These could be books, dissertations, scientific articles, conference proceedings, bachelor or master theses, policy texts or reports.

Once you have completed these steps, the foundation for your research is in place and you can start conducting your research.

Plagiarism

What is plagiarism? Plagiarism is copying the texts, audio/visual material, thoughts, or reasoning of others and passing them off as one's own work. Often plagiarism goes hand in hand with copyright infringement, but this is not always the case.

You can avoid plagiarism by citing the source when you:

- Copy a quote from someone.
- Use (paraphrases) ideas, opinions, or theories of someone.
- Use information, such as statistics or graphs, that contains data collected by someone else.
- Use information such as drawings, pictures, or sound clips.

Quote

Quoting is taking a passage verbatim from someone else's publication. This can therefore be a piece of text, but also a graphic or an image! To copy parts of someone else's work is allowed provided the rules in Article 15 of the Copyright Act are complied with.

Paraphrasing

Paraphrasing is copying someone else's work in your own words. Again, you are bound by the rules in the Copyright Act. The rules for paraphrasing and quoting are the same when it comes to referencing. The text must refer to the author and year of publication, and the complete reference can be found in the bibliography.

More information on quoting and paraphrasing can be found [here](#).

Phase 2 Writing

Time to write... How to build your thesis?

There are no specific requirements for the presentation of the components of a research report. Each study programme determines its own emphasis within the established criteria. You must remember that readers have fairly clear expectations as to the kind of information they will find in such sections. The form requirements below usually promote ease of reading. The scope for an original approach here is thus limited but can be essential. So be creative wherever possible!

- **Cover and title page**

Each report contains both a cover and a title page. The cover of the report has a protective function, but the design can also invite the reader to read your report.

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Make sure you have a business-like but also original (sometimes creative) design. The information on the cover need not be as extensive as that on the title page; you can suffice with the title, the author's name, and a date of completion.

The title page is the starting point for the title description. Always include your name, student number, the title of your research report, the publication date and other relevant information on the title page. If several people worked on the research report, list the authors in order of contribution.

When choosing a title for your research paper, it is important to think of one that is informative and concise, but also inviting and thought-provoking, if possible. If the topic lends itself to it: choose a creative, catchy title.

Tips cover and title page:

- The title is usually split into a playful, intriguing main title and a business-like subtitle, which should make it undeniably clear what the report is about.
- The business subtitle is written down in a much smaller font than the main title. Do not make it too long.
- The main and subtitle are central on the page layout and may stand out.
- E.g., use a cover of sturdier paper than the rest of the report, use colour or place a (functional) illustration.
- For an internal assignment, match the cover and/or title page to the organisation's corporate identity (house style). If there is none, use the logo prominently. If there is an external client, choose a place and lettering for their data that make it clear that the client is most important.

- **Foreword**

The preface is a personalised text in which you can relate pleasant or disappointing experiences. It is not directly related to the content. In the foreword, you can thank people who helped create the text, indicate for whom the text was written and why.

Tips foreword:

- The preface does not address issues related to the content of the report.
- The preface is not part of the chapter numbering (so does not have a separate chapter number).
- Keep the preface short (maximum half a page).
- Write in the 'I' form or the 'we' form.
- Always end the preface with place, date, and name(s) of the author(s).
- The preface accompanies the unnumbered pages of the report.

- **(Management) summary**

A summary is a standalone story and an essential part of your research paper. Many readers don't get beyond the summary because they only want to know the big picture. For others, it is an initial orientation based on which they decide whether or not to read further. If they read on, the summary acts as a coat hanger from which the details are hung. A summary should therefore be understandable, short, and informative. You describe the entire study in no more than two pages:

- problem analysis
- objective
- central question
- sub-questions
- design of the study
- results
- main conclusions
- recommendations

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It is important that you are good at separating the main and secondary issues. You should give the reader insight into all the main issues of your thesis. Better to write the summary after you have completed your research, so write in the (past) perfect tense.

Tips (management) summary:

- Contains as little jargon as possible.
- Does not contain references to the actual report.
- Do not add any new information.
- All information should be found worked out in the text.
- If necessary, give the summary a different colour paper so that it stands out.
- The summary as well as the cover, title page and preface are not included in the table of contents.

- **Table of contents**

A table of contents serves to give the reader a first impression of the contents and structure of the report. Creating the table of contents is an accurate one. Make sure everything is correct and that it is clear and uncluttered.

Tips for table of contents

- The layout should show the structure of the report. That layout should make the distinction between pre-work, core, and post-work directly visible but also coherence within a chapter, difference between chapters and other parts.
- Ensure an uncluttered format: use white lines to separate chapters and indent subordinate parts, such as paragraphs and sub-paragraphs.
- Make use of the option in word processing programmes to automatically generate a table of contents (the help function in *MS Word* offers help here).
- Provide decimal numbering of the core in Arabic numerals, max three digits (e.g.: 3.1.1).
- No paragraphs at all for a chapter is only acceptable for the introduction and the conclusions and recommendations chapter.
- Always provide at least two parts to paragraphs: a sequence of chapter 3, paragraph 3.1 and then chapter 4 is impossible. Paragraph 3.1 should be followed by paragraph 3.2.
- Include only numbered sections in the table of contents, unnumbered headings are omitted. Cover, title page, foreword, management summary and table of contents are items not included in the table of contents.
- The titles of chapters, (sub)paragraphs are taken verbatim from the text.
- Formulate informative, concise titles. These titles consist of nouns (possibly supplemented with clauses) or interrogative sentences. When doing so, make sure that sections organised in parallel are formulated in parallel: the main titles are then either all nouns or all interrogative sentences.
- Never put chapter titles in question form.
- The page number will appear after the title (possibly connected with dots for readability), so page numbers will appear below each other.
- Start the page numbering in Arabic numerals (1, 2, 3 etc.) at the introduction, but start counting at the title page, the first page of the report.
- Do not use designations such as 'Chapter', 'Paragraph' or '\$' in the table of contents; decimal numbering is clear enough. For example, not page 6 or page 12, but 6 or 12.
- Indicate with page numbers where a particular section begins, not also where it ends.
- Notes, bibliography, beginning of appendices, glossary and register are page numbered. Individual appendices are consecutively numbered.
- Give attachments an informative title.

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Tips for the chapters (the core):

- The main text must meet the following two characteristics:
 - a. Completeness: all relevant data must be incorporated in the report, it is not allowed to change research results;
 - b. Verifiability: all data in the report should be verifiable by the reader (refer to literature used, describe research methodology and results).
- The core of the report consists of numbered chapters, often divided into paragraphs.
- Start each chapter on a new page.
- Begin each chapter with a brief introduction that includes the following information: What question is central to the chapter? What is the relationship between that question and the main question of the report? What is the overall structure of the report?
- End each chapter with a summary or conclusion.
- At the end of the chapter, give a brief preview of the next chapter.
- Refer to the appendices; briefly state why they are of interest.
- Use illuminating illustrations and graphs, always with captions.
- Go from broad information to details: Start by describing general background of the case and then provide detailed information.

- **Introduction**

In this chapter, you should discuss the background to your research and its context. Name the:

- a. relevance of your research,
- b. problem analysis,
- c. objective,
- d. central question and sub-questions,
- e. construction of your thesis.

In short: set out exactly *what* you will be describing: a concise but precise description of the relevance and principles of your research makes it clear to the reader what to expect in report. For example, will the reader get recommendations for new policies based on the findings of the research, or a roadmap for implementing the new policies? You should explain how that is achieved in the report, based on the formulated goal. In the table of contents, the reader will find chapters and paragraphs; in the introduction, he will read *why* those sections are needed and what relation they have to each other.

Tips:

- Don't start the story right away. Connect to what the reader knows so that they can find enough clues.
- In the opening sentence, try to grab the reader's attention immediately. Some common opening techniques are a question, a comparison, a quote, anecdote or saying, spectacular details or numbers. This is followed by a brief situational outline that sets the stage for the story.
- Chapter 1 in your table of contents can begin with the introduction or the core section.

- **Theoretical framework**

In this chapter, you substantiate your research questions and key concepts using theory. In other words, you report on your substantive orientation. In doing so, you incorporate relevant and recent literature. You should summarise the current state of affairs; if necessary, confront different, possibly conflicting viewpoints. Take up your own position, which you justify. You can answer the descriptive research questions by means of a literature study. By reading up on theory, organise the information and define your research.

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Show the preconditions (boundaries) of the research: What will you research and what not, and why? To what extent can you connect to or build on research already conducted by others?

Please note: if you quote, make sure to cite your source correctly. Even if you paraphrase, i.e., copy parts of someone else's text in your own words, you should also cite your source. Want to know more about literature review, citing, paraphrasing, and referencing with APA? Then click [here](#).

- **Research methodology**

Describe how you have collected the data in the research. How did you go about it?

- Describes the research group.
- Describe the method you used to conduct your research.
- State which measuring tools you used and explain choices.
- Indicate how you developed them.
- Describe the process of data collection. If you used a questionnaire for your data collection, include it as an appendix. It is important to be as specific as possible here. Other researchers should be able to use/repeat your research.

Examples of commonly used research methods are:

- interviews or group discussions
- literature review
- case study
- surveys
- experimental research
- analyses

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- **Results**

In this chapter, describe the actual results of the research. For example, the results of a survey or the measurements of an experiment. Analyse the results. Do not yet give explanations or draw conclusions, nor do you answer the research questions. It is an objective picture of the collected material. You can use the order of your sub-questions to structure the chapter. You can use figures and tables and refer to them in the text.

Figures and tables:

- are titled & numbered;
- are independently understandable (contain, for example, a legend);
- are referred to by reference in the accompanying text.

- **Conclusions and discussion**

In this chapter, you should repeat the results. Repeat the research questions and answer only the central question and the sub-questions. You base your conclusions on the research material. Do this concisely and clearly: do not include data that has not been researched.

Conclusions should fulfil three requirements:

- They should be readable by someone who has not read the rest of your work.
- They should not come as a surprise to a reader who has read your research report. This means that the reader should be able to easily find the reasons for the conclusions in the previous chapters. This also means that you cannot introduce new elements in a conclusion.
- These should be in the form of key points, followed by an explanation if necessary. A reader opening the conclusions section should be able to see at a glance how many conclusions there are. They should also be able to quickly grasp the gist of each conclusion.

'Discussion' means discussing the results in the light of the objective and the research question you conducted. What do the results mean and how useful are the results?

In the discussion section, you present possible other interpretations, explanations, and views. You can do this from the literature, but this can also be your own opinion. You also describe what the results say about the theories you have described in the theoretical framework.

- Do the results that you found substantiate your theory or not?
 - o What are your critical comments on the research conducted?
- What do the results mean for the theory on which the research builds?
 - o What suggestions do you have for further research?

Tips for conclusions:

- Conclusions must be precise. It is not enough to answer broadly, although factual data may be presented somewhat more globally.
- The conclusion is included in the chapter numbering.

- **Recommendations**

In this chapter, you should show the significance and value of the research findings for the practice problem. You give possible recommendations and tell how they came about. Make sure it is as concrete as possible. Recommendations should be feasible. You can also consider whether follow-up research is needed and give suggestions for this.

Tips recommendations:

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- For an advisory problem statement, 'recommendations' are indispensable; for a descriptive and evaluative central question, conclusions are sufficient.
- Recommendations should be a practical elaboration of the conclusions and therefore directly linked to them. Often, a recommendation has the character of a suggestion for, for instance, a new approach, a follow-up study, a specific practical application, a measure to be taken or an action to be carried out.
- Recommendations should be concrete. So do not write that 'further research is desirable', but specify what exactly should be conducted, by whom and why.

- **Literature list**

Here you include all the literature you consulted for your research. Besides using books and articles, you can also think of consulted internet pages, annual reports, social manuals, or test manuals. The reading list is not so much meant as proof that you have done a lot of work.

More importantly, the list allows readers to form an impression of the quality and timeliness of your professional product. They can tell whether leading and recent works have been consulted. Therefore, only works you have actually used are listed.

Referring to literature is subject to all kinds of rules. Want to know more about the RUAS criteria for preparing your reading list? Then click [here](#).

In your report, you also regularly refer to the literature used, in the form of quotations and/or paraphrases. With these references, you should make it clear what is your own work and what is the work of others and where further data can be found. It is not necessary to provide literature references for general, non-controversial information that can be found in textbooks.

- **Glossary (optional)**

For the reader of your research report, it can be pleasant to include a glossary of terms especially if many specialist terms are unfamiliar to the reader.

Tips for the glossary:

- Make sure the explanation to the concept is independently understandable, do not refer to sources or other concepts on the list.
- Tune the explanation to that part of the audience with the least prior knowledge.
- Refer to the glossary in the introduction.
- The glossary is arranged alphabetically.

- **Annexes**

Appendices are an excellent means of keeping the core of the thesis clear and readable. Examples include:

- questionnaires you used for your research
- diagrams of organisational structures
- illustrations
- letters
- leaflets
- statistical data

One condition is that the text should form a comprehensible whole independently of the appendices. You should never force the reader to scroll back and forth. Each appendix should be referred to in the thesis. Give attachments a number/letter and a title and refer to them that way in the table of contents. Make sure the page numbering is continuous. It is otherwise difficult for the reader to look up an appendix quickly.

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Tips attachments:

- The order of the appendices is determined by the order in which they are mentioned in the main text.
- Provide annexes with a short informative title and include these titles in the table of contents of the annexes as well.
- Start each appendix on a separate page.
- A title page before the appendices in a different colour quickly makes it clear where the report ends, and the appendices begin.
- Number the annexes with Roman numerals (I, II, III, IV).
- Appendices do not form part of the chapter numbering (but are therefore listed in the table of contents).
- Name the appendices in the table of contents by number and title.

Phase 3 Review

Once you have written the first draft of your thesis, it is time to review and revise your first draft, the revision. Take your time here: don't rush, as meticulous revision is essential for a good final product. The revision phase consists of a number of 'checks':

Check the contents

- Read through your thesis again and check that it is complete in terms of content.
- Is the order of the chapters and paragraphs logical?
- How long are your chapters and paragraphs?
- Is everything in the right place or do you need to change anything?
- Is there unnecessary repetition? Be critical: writing is deleting.
- Look at the substantive criteria as your study programme maintains them, see if you haven't forgotten anything.

Check sentence structure and word usage

- Assess whether your sentences flow well. You can do this by reading your text out loud.
- Are you using the right words, the right register? Do you vary your word usage enough?
- Also pay attention to the writing style. Is it business-like (and not muddy) and neutral in all cases?

Check language care

- Check your entire report for punctuation and spelling: spelling mistakes look sloppy, and the content will be taken less seriously.

Check the general layout

- Is my cover neat, business-like, and attractive?
- Are all the correct details on the cover page and title page?
- Is the Table of Contents correct?
- Does everything have the same font? Are the page breaks correct?
- Are all literature references in the text and the bibliography correct?
- Are all figures, tables and graphs numbered?

Also, always have a second reader look at your thesis. They can take a critical look at your text and more easily pick out mistakes you might have overlooked. In any case, do not continue to work on your text for a short period and try to look at it again with fresh eyes.

- Look here for a [thesis checklist](#).
- Or check out these examples:

[What Is a Thesis? | Ultimate Guide & Examples \(scribbr.com\)](#)

[HBO Kennisbank \(hbo-kennisbank.nl\)](#)

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Phase 4 Rewriting

Now that you have checked your entire first draft of your thesis on all parts and had it reviewed by a second reader, you can start rewriting. When rewriting your text, you should not need to make any major changes to the main thread of your thesis; you had already determined that earlier.

In this final phase, focus mainly on rewriting sentences and/or words, language care and layout.