

Chapter 4. Supervision of the thesis

4.1 Supervision and giving constructive feedback

Supervision is not as simple as giving a first instruction, keeping an eye on how things are going and giving a final assessment. A supervisor is not only supervising a project or a thesis, but more importantly supervising the learning process of a student. After having finished the thesis, the student should have taken another step in becoming a Master of Science. It is therefore important to have an idea about the exit qualifications of a Master's graduate and what knowledge, skills and attitudes a student is expected to gain during working on a thesis. The Board of Examiners of the GS-LS determined learning outcomes and matching assessment criteria, available in the Appendix.

An important part of supervision to guarantee a successful learning process, is giving constructive feedback. In many evaluations students indicate that they would like more and better feedback during their research projects and especially during the writing of the thesis. It is of vital importance to speak about expectations, learning outcomes and the matching assessment criteria, before the start of the thesis.

Giving constructive feedback is a hard skill to master. It is not only about what the student is doing well and what (s)he is doing wrong. More importantly it is about why something is right or wrong, and giving advice on how to improve. A supervisor should adjust the way to give feedback to the individual student. Some will appreciate clear, unpleasant feedback, while others might take feedback personal. Using the learning outcomes as a guideline for an evaluation might help to give feedback, because this way it will be constructive directly. Assure the student that the feedback is not meant personally, and always meant to help him/her in the learning process. Do not only drop an opinion ('I think this is not good'), but also give reasons and advice about how to improve things. It is also important to not only focus on things a student does not do right, but to also mention the good things. A trick to make it easier for students to receive feedback is to start with saying what is good and then proceed with the aspects that should improve. 'I think your writing is very good, but shortening the sentences might make it easier to read' sounds better than 'The sentences are too long, it's very hard to read. The writing is good however'.

4.2 Supervision on the writing of the thesis

The writing phase is primarily aimed at giving advice about the written text and the way the student puts his/her ideas into words. Proper guidance and moral support is important in this respect. Students are encouraged to take the initiative to seek contact if problems arise, but the supervisor should give positive encouragement and offer additional guidance to help the student back on track when necessary.

The supervisor's dual role as supervisor and assessor is a major factor in this phase in particular. Students may for example delay submitting their "imperfect" work for fear of it affecting their final mark. It is therefore very important to lay down agreements during the start-up phase, clearly stating the number of drafts to be submitted and the specific assessment criteria (use the Appendix as a guideline). For example, is the draft thesis assessed, or only the final version?

Encourage the student to divide the thesis into a number of rounds: begin with a rough outline with titles of main sentences and paragraphs, and rephrase and refine this into a text with complete sentences. It is advisable to give feedback in rounds as well: on the rough outlines, on the content and on the details, dotting the i's and crossing the t's.

4.3 Expectations and assessment

What can the supervisor reasonably expect from his/her students? The assessment criteria cover the process of writing as well as the final product. The students' analytical skills, initiative and attitude to work are taken into account. The flexibility offered by the entrance criteria of the Master's programmes and the highly specialised research areas have as a consequence that different students engaged in a particular field of study may have completely different knowledge, skills and competencies. All students should however have an academic, critical attitude, and should be able to fill gaps in knowledge by reading literature and acquire skills with assistance from their supervisor. In addition, formulating a research problem, independently perform literature

research, and order, critically review and integrate all necessary information, are important aspects of the learning process.

In the end, the thesis is aimed at the learning process of the student: how quickly and till which extend do they acquire the skills that they are expected to master. When drawing up the assessment, take into account not only the student's "end product" (the thesis), but also the student's speed of learning, the ability to absorb new information and the student's work attitude.

4.4 Final assessment

The assessment is performed by the examiner from Utrecht University, in close consultation with a second, independent reviewer and, if applicable, the daily supervisor. The second supervisor is a staff member who is not involved with the student's supervision directly. If the daily supervisor was a PhD-student or a post-doc (a non-staff member), (s)he can not act as second reviewer (but may be consulted by the examiner). In case of a thesis outside Utrecht University, the daily supervisor will be the on-site supervisor (staff member) at the host institute and the second reviewer will be the examiner at Utrecht University.

Some supervisors systematically identify and weight assessment criteria for the different components, which they consider particularly important to arrive at a final mark. Others may weigh up these factors more instinctively. The Appendix contains a list of assessment criteria, which can be used as a guideline for the assessment. Students are entitled to know in which areas they are to be assessed. It is useful to use these criteria during the supervisory phase, to give feedback. This information will enable the student to improve those areas that need improving.

Furthermore, there are feedback/assessment forms available on the website of the GS-LS, which can be used to give and receive sufficient feedback during the assessment (please note, these forms never replace the formal assessment via Form 3b 'Assessment thesis', see below).

After completing the thesis, the student has to hand in a (digital or hard) copy to the examiner, the daily supervisor (if applicable), the second reviewer and the programme coordinator. The examiner and second supervisor have to complete the assessment within 20 working days after the student has handed in his/her (final) thesis, by filling in and signing Form 3b 'Assessment thesis'. It is the student's responsibility to deliver the form to the Administration Office as soon as possible.

Appendix. Assessment criteria thesis

*Determined by the Board of Examiners Graduate School of Life Sciences,
August 2009*

Introduction

The main part of the Life Sciences MSc programmes consists of conducting research (in one or two research projects). In addition, all students have to write a MSc thesis.

In principle, the grade of a research project consists of:⁵

- Research component (practical work): 60%
- Written report: 30% (averaged mark of daily supervisor and 2nd expert)
- Oral presentation: 10% (averaged mark of daily supervisor and 2nd expert)

The grade of the thesis is determined jointly by the examiner and a 2nd reviewer.⁶

In general, post-docs and experienced PhD students (and sometimes a member of staff) will act as daily supervisors for the research projects and thesis. Officially, the 2nd reviewer is a staff member (of Utrecht University or UMC Utrecht), but it is allowed that an experienced post-doc fulfils this role. In any case, the 2nd reviewer is an expert in the field who has not been involved in daily supervision. In all situations, the examiner is responsible for the final grade.

In the text below, first the learning outcomes of the research project are formulated. After that, a list of items that can be scored for grading is presented. The same procedure is followed for the Master thesis. Finally, grades are defined.

How to use the list of items?

This list is meant to be a guideline for those, involved in assessing and grading Master students, and for the students who are entitled to know at the start of the research project or thesis, which criteria and which weights will be used for the final grade. It is conceivable that not all items are scored always. One is free to give weight to the items that are scored, but averaging (per category as indicated by i, ii and iii) is recommended.

The list of items will be published on the website of the Utrecht University Graduate School of Life Sciences and will be included in the Study Guide of the School.

⁵ Rules and Regulations 2008/2009, art. 4.2.1

⁶ Rules and Regulations 2008/2009, art. 4.3.1

Which are the learning outcomes that students should achieve by writing a thesis?

The student is capable of independently:

- conducting literature research, using scientific secure literature databases (e.g. PubMed);
- using scientific literature and insights in a critical manner;
- summarising literature using own words;
- integrating results and models of papers read into new models;
- formulating hypothesis for future research.

In order to assess whether the student has achieved these learning outcomes, the following list of items for thesis can be used.

Thesis

- i. Process of writing
 - Response to suggestions
 - Report defence during evaluation
 - Initiative/independence
 - Compliance to appointments
- ii. Final thesis
 - Summary of literature search: proper rephrasing
 - Presentation of results: clarity of tables, figures
 - Depth and critical analysis
 - Presentation of new models or hypotheses
 - Structure and line of reasoning
 - Foundation of conclusions
 - Use of references

 - Language: spelling, grammar, not unnecessarily lengthy
 - Structure and line of reasoning
 - The thesis was handed in on time, complete with annexes, figures, tables and references