Research Supervision Guidelines

Anders Drachen, Aalborg University (Revised November, 2014)

1 Overview

This document describes my view of the supervision of research towards a degree, and outlines what I believe should be the mutual expectations of supervisor and supervisee.

It is intended for my students and potential students, so they know what they are getting into.

2 General Issues

2.1 My Role

As a supervisor I am responsible for assisting and guiding you in completing your project, however, I am not responsible for the project as such – that is your responsibility.

If you are not ready to work independently on a project and capable of managing this type of work, do not ask me to become your supervisor.

My personal site has a page with advice for students and various resources: http://andersdrachen.com/for-students/ - I strongly recommend taking a look at the materials there.

2.2 The Project Approval

I expect that you either before or shortly after contacting me have taken all steps necessary to have your semester project, thesis project or similar approved through any official channels needed. If you are doing group work, I expect you to have established a modus operandi with your teammates.

When contacting me, I expect you to have a project proposal/project synopsis ready, which at the minimum includes the considerations set out in the Research Design Template found here: http://andersdrachen.com/for-students/

2.3 Choice of Topic

We need to work together to identify a topic that is interesting to you and interesting to me. If you are not interested in the topic, you will find it very hard to put in the work required. If I am not interested in the topic, you will not get as much of my attention as you should.

2.4 The Structure of Your Period of Study

Regardless of the academic level at which you are carrying out your research (project, masters or PhD), the overall structure is likely to be the same: you will do a detailed literature review or research survey, on the basis of which you will identify some key research issues you want to address; you will pick one or more of these research issues, and you will work out how to address them. Depending on your field, you may be building a piece of software along the way as a proof of concept, develop a website or design concept, or similar; and then you will write up this work in a thesis. How this works out in detail for masters' degrees and PhD degrees is described further below.

2.5 The Importance of Writing

Regardless of the academic level of your research, I expect you to be writing all the way through, and not just at the end when you put together your thesis. There are a number of reasons for this, in particular:

• It is often only when you try to explain something in written form that you become aware of some of the issues that you need to address.

• If you cannot communicate your research to others, then you might as well not have done it.

I expect you to produce a thesis whose written quality is high. The more you write, and the sooner you start, the better your writing will be. I only accept students who will write in English – this is the most widely accepted language of research as well as industry work, and irrespective of your level and interests, you must be able to communicate effectively in this language, be it in written or verbal form.

2.6 Supervision

2.6.1 Meetings

During the first six months of your project period (which is the entire project period at most universities for a masters or semester project), you can expect to meet with me most weeks for an hour or a bit less.

The specific number of hours I spend in meetings with you will depend on the number of hours allocated for supervision by the university (in the case of AAU), and the degree of interest I have in your project.

For PhDs, in most cases this model extends into the second six month period, but if your work is proceeding very quickly, then we may reduce the frequency of our meetings after the initial six months, perhaps meeting once a fortnight or even once a month. Beyond the first year, how often we meet depends on the stage your work is at, and the amount of input you need to continue making progress; I would still expect to meet once a month to keep up with how the work is progressing. Of course, if you feel you need more supervision, you just need to ask; often we will have additional meetings for specific purposes.

It is your responsibility to make sure our meetings happen, and *I expect you to send me a short summary, by email, of the meeting shortly after we meet:* This should outline, in bullet points, the key items we discussed, conclusions we came to, and actions required by either party with expected dates by which they will be carried out. The message does not need to be any more than a screen-full or so, or perhaps just a few bullet points, its purpose is to provide both of us with a record of the meeting.

It is also a good idea if you can take the initiative to propose agendas for our meetings before they take place, again by email.

For AAU students: Current guidelines state that a Masters Project is entitled to 35 hours of supervision. This includes all the time spent around the exam, so the actual amount of hours for supervision is closer to 25. For semester projects, we currently have 11 hours per students across the entire semester, again, including the time spent around the exam.

For a PhD project, the number is different, but will likely be more intensive in the beginning year of the project and towards the end.

I expect that we can work together to stick to these numbers. This also means that you should think carefully about how you wish to utilize your supervision hours.

2.6.2 Reading Your Writing
I read running text at an average of 10 pages an hour, and slower than that for densely technical material. Please bear this in mind when you give me things to read: I need to be able to schedule enough time to read things before we meet, otherwise our limited meeting time is wasted.

2.6.3 Managing Progress
As well as the summaries of meetings mentioned above, I expect you to also send me a short summary report at the end of each second week that summarizes the work you have carried out that period. I need to receive these reports by 10:00 AM Monday each second week, since they play a role in my planning for the following week, and I do that planning at 10:00 AM on a Monday.

These reports need to be in a specific format:

They should have a subject line of the form "Bi-weekly Report, Name, *YYYY-MM-DD*: Week *N* of *M"* where the *YYYY-MM-DD* is the date of the Friday on which the report is submitted, and the *N* and *M* remind us both of how far through your research project you are. You need to use this format of subject line since I use this in managing my email.

In the body of the message – not as a Word attachment or anything else – you then should provide just simple bullet points under the following headings:
+ Achieved/delivered this week
+ Difference to plan
+ Comments
+ Next week's targets

The report should be short – no more than 20 lines.

3. PhD Specifics
The expected duration of a PhD is generally three years, and that is how long you will get funding for. It is quite hard to complete a PhD in that time: Some people manage, but most go over by at least six months and often more. Nonetheless, you should plan your project to last 2.5 years – that way you have a buffer zone in the end.

3.1 The Structure of PhD Study
There is no one model that fits all cases, but the following structure is a good default.

Months 1-6: The Literature Review
The main goals of this stage are as follows:

• Reading widely;
• Becoming aware of the key players in your research area and reading the principal works;
• Identifying the key issues in your research area; and
• Writing your literature review.

Note that this means you already need to know the broad area you want to work in when you begin the PhD, so it is appropriate that we discuss that at length before you start.

You should also use this time to take courses to fill in gaps in your knowledge.

Months 7-12: The Thesis Proposal
The main goals of this stage are:

• identifying your research questions and the research hypotheses you will explore;

• working out in broad terms how you will approach these questions;

• writing this up as a plan for your research.

Meanwhile, you may still be taking courses to fill in gaps in your knowledge.

Months 13-24: The Research
The main purpose of this phase is to explore the research hypotheses introduced in the research proposal, and to a develop answers to the research questions you identified. This is the core content of your research work; this involves developing the conceptual and theoretical machinery that makes up your research contribution, and implementing a system that demonstrates your ideas. This is when you will do the bulk of your programming, although you may have done some already in working out the thesis proposal.

Months 24-36: The Thesis Write-Up
It really does take a year to write up your thesis, so you need to start early. The thesis will typically have six chapters: an introduction, a literature review, three chapters that contain the substantial contributions that make up your work, and a conclusion.

Although it is appropriate to have a point in time where you decide you are starting to write up, there is no real hard line between this stage and the previous one. In part this is because you should be writing all the time in any case; but more importantly, as you write up the thesis itself, you will identify all kinds of problems that you need to address, so that you end up filling in holes in the research while you are writing.

3.2 Publication

3.2.1 Writing in Academic Style
Unless you have previous experience of real academic research at a postgraduate level, writing in the academic genre is unlikely to come naturally. To acquire this skill, you need to write a lot and read a lot. The first few times you give me a document to read, it will be returned covered in comments. Do not despair: I do this to everyone, and I would not put in the effort if I did not care about your work.

Writing your first publishable paper is a big deal, and I will help you a lot with this. Generally what happens is that we discuss the work a lot, you revise a basic paper several times in response to my comments, and when things are starting to take shape, I spend time with you, preferably at a keyboard, revising the text extensively to make it appropriate for academic publication. I would expect to be second author in return for these conceptual and writing contributions; more generally, your first few papers are likely to be co-authored with one or other of your supervisors, or both, unless you are submitting to a special student session at a conference.

3.2.2 Publication Targets
There are hundreds of workshops and conferences out there. You should plan which ones you are going to submit papers to well in advance.

You will find there are also dozens of specialist workshops, often in interesting places; if you can find the money to attend these that is great.

4. Expectations
It is important that we have a clear understanding of what we can expect from each other. Here is my take on this.

4.1 What I Expect

1. You take all steps possible to meet agreed deadlines, and you arrive for meetings punctually. You let me know if you will be late. You send summaries of meetings after they happen, and follow through on actions as agreed.

2. You get to know the community you are becoming part of: You should join the relevant societies if there is one, sign up to the relevant mailing lists, and learn who is who in the area.

3. You take your research seriously: you should keep up with relevant research in your area by constantly searching out new stuff and reading widely, using library databases and other sources. You should become an expert in the area of your research.

4.2 What You Can Expect

1. I take all steps possible to meet agreed deadlines, and I arrive for meetings punctually. I let you know if I will be late. I follow through on actions I take on as a result of our meetings.

2. I take your research seriously, providing comment on your work that is at a higher level of consideration than I would give to journal and conference papers I review.

3. I attempt to provide helpful pointers to relevant research and people, and generally help you as much as I can to carry out a world-class piece of research (as appropriate to where you are in your degree).

4. That I will respect you as I would anyone else – I do not treat students as lower beings, and do not perceive them as cheap labor. I expect the same respect in return.