

(All too) Practicalities for writing a dissertation - 11 phases of creativity and suffering –

Based on my experience in supervising about 150 dissertations in the fields of engineering, natural sciences and the humanities, some "unchangeable characteristics" have emerged for me, which appear very frequently in the history of a dissertation:

Phase 1: Insecurity concerning the topic

It starts with the uncertainty about the subject. If the topic is given by the supervisor, the uncertainty usually consists of whether you can do what is really meant and whether the defined problem is a problem at all? If only the topic framework is given, this phase is like poking around in the fog, because everything has already been researched and the others are much better than you are, aren't they?!

Phase 2: Big ideas

After getting used to the uncertainties, the courage for big ideas slowly grows. You realize how many scientific gaps there are still and that there is a lot to do in many places. You can also see the sometimes blatant shortcomings of existing dissertations and that many of them did not even deal with the actual problem. As a young scientist you can see this in all its sharpness. From this, great ideas emerge, which from the outside usually look more like an approach to habilitation than to a doctoral thesis. However, "reduction" by the supervisor makes no sense at all, since on the one hand the joyful creativity would then be gone and on the other hand, as a supervisor you would not be able to talk any of the candidates out of their great ideas during this phase.

Phase 3: Disillusionment with the others

As already indicated, one begins to read dissertations and publications, travels to international congresses and gradually realizes with more or less great horror: others are not better than me. And the longer one searches, the fewer really good people one finds. Disillusionment about the mediocrity of science and about the multiple narrowing of dissertation topics characterize the situation. Thank God you have something else to do besides getting your doctorate. In many areas, doctoral positions are associated with employment contracts. Especially those who do their doctorates within the framework of full-time positions have excellent opportunities to escape...

Phase 4: Time delay – the first crisis

The time passes and suddenly a continuation request for the doctorate scholarship, a new project request for the financing of the own position must be written or one recognizes with fear that the limited employment contract decided upon has an end sometime. Some break off here, others start right now.

Phase 5: Productive phase

Those who have survived the first crisis can now really get to work. The topic is emerging, you have really gotten to grips with it and have long since become more of a specialist in the relevant field than you want to admit. The first computer programs are running, the first results are available. New variants come to mind, new lines of investigation are set up, new data are made accessible, new sources of literature are found, foreign-language literature is discovered and perhaps you buy a larger desk at home because the old one has become too small.

Phase 6: Drowning in data – the second crisis

After some time you lose track of the situation. The dangerous thing about this phase is that the work in progress is poorly documented, you are already much more competent than you think you are and the detailed work "saves" you from seeing the bigger picture. You are still worried that you won't be able to put together the 120 to 500 pages that were planned - depending on the supervisor's requirements - and above all you realize that the crucial problems have not yet been solved. So one continues to swim from scientific detail to scientific detail at the highest level.

Phase 7: Writing pressure, time pressure

But it comes as it must come: At some point text has to be written - at the latest when the supervisor sets deadlines. Many then experience the so-called "writer's block". Unfortunately, most people confuse this writer's block with the situation that you have to write a text or a major treatise for the first time. However, writer's block on dissertations usually has to do with the fact that the concept of the dissertation is not clear, the purpose and objective of the dissertation is not clearly formulated and there are considerable gaps in the methodological justification and in the criteria for evaluating the results due to the abundance of detailed knowledge. If this phase is then associated with time pressure - and this is usually the case - things start to get unpleasant. In my experience, an above-average percentage of women (unfortunately!) give up their doctoral project at this stage. Self-esteem doubts such as "I'm no good" become dominant all too easily. The fact that we men tend to overestimate ourselves a little more often obviously helps to hold out in this phase.

Phase 8: Disillusionment with oneself

In any case, the great disillusionment with one's own person now begins. And since one has usually been attached with heart and soul to the topic of the dissertation for many years, and has possibly also interpreted (spiritual) vocations into the scientific work - justifiably or unjustifiably - it usually dawned on the doctoral candidate the realization: Somehow I am not able to do it as I originally wanted to. Is this even science what I am doing? Do I not embarrass myself in front of the reporter? Who cares what I am writing? Actually, I am only now beginning to be able to formulate the question clearly! I have been left alone the whole time - maybe it really was like that - but that doesn't help me now, what do I do now?

Phase 9: Reduction / disappointment

Happy the one whose supervisor reduces the topic in this phase and at the same time intensifies it. For the personal situation of the doctoral student this is often connected with disappointment, because at the latest here the "big ideas" from phase 2 must die. Sometimes doctoral students only now realize that their original scientific aspirations could have been realized at best within the framework of a habilitation, sometimes even only within the framework of a larger research program. But it's like trees: if the work is not properly pruned, it will not bear fruit. Modesty, consistency of thought, clean terminology, first-class craftsmanship and unrelenting consistency in

the evaluation of one's own results as well as a consistent flow of thought from chapter to chapter are now the order of the day!

Phase 10: Final sprint

And now there are no ifs and buts. It's no longer a question of whether I get the best grade, it's no longer a question of whether the scientific claim meets my requirements, it's also no longer a question of how valid the experiments are, it's only about one thing: getting done and hopefully without night shifts. But the reality is that in many cases the family that already exists at that time often only sees the doctoral candidate at breakfast because he or she has just returned from the "night shift". Working through weeks on the edge of sleep reserves and unfortunately often on the edge of health are sobering realities. But don't worry, many have "survived" this before you, only to look back on this great time with pride years later. There was really something going on!

Phase 11: Extension of the deadline

Here I don't want to talk about the extension of the deadline, which was caused by the work process itself, i.e. by inaccuracies in the scheduling. Let's assume that this scheduling worked out perfectly and that the schedule planned for the last year and a half of the dissertation worked. Here I am talking about the extension of deadlines caused by the bureaucracies of the universities, some of which contain objectively unbearable complications. Only rarely do doctoral students encounter faculties in which less than two months elapse between the legal submission of the thesis and the corresponding doctoral examination. But there are also such positive examples. And this should actually be the norm. I combine this with an appeal to all my professorial colleagues who read these lines: Make sure that these procedures are carried out quickly in your faculties, that the work is not left for months, sometimes even years, to be corrected by supervisors, and that the design process is sometimes so "intelligently" designed that the editors have to wait up to six months after the reports have been submitted. I have experienced many blatant cases in my many years as dean. There is (unfortunately) only one remedy in the current university system: plan all formal procedures of a legal, formal and expert opinion nature early and in good time. Chase after every appointment, make sure that the corresponding legally effective letters from X to Y have really arrived. You can't be suspicious enough in this phase in a consistent and constructive way. Check with your colleagues and, if necessary, take up your new position and take the doctoral examination one year later.

Apology

I apologize if I was (too) realistic. However, the purpose of these lines is to point out the possible traps in the process of writing a thesis and I would much rather you not experience one or the other of these traps or proactively counteract them so that you can say afterwards: this article was exaggerated. You can only judge this in retrospect. In this sense, I wish you much success in the development of your dissertation and when things don't go on, remember: you are better than you think and can do more than you believe. It is not so easy to contribute to the creation of God with a dissertation or a piece of analysis.