Supervising strategy for Doctoral Students

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Introduction
The endeavor to reach the academic level of PhD is for many a long, hazardous and stressful journey. Supervision is of major importance for a doctoral students successful completion (Bergnéhr 2013). In this supervision strategy some of these issues are highlighted. The demands put on supervisors have gradually increased the last 25 years (Brodin, Lindén et al. 2016) and this can lead to a difficult balance act by achieving results and marinating quality as time is a finite resource.

Literature was reviewed and as (Robson and McCartan 2016) points out providing information that is already known and relevant to current research.

This study and strategy is intended to present findings and conclusions regarding how to successfully coach and supervise PhD students to become ethical, yet confident and effective researchers and lecturers.

Alm’s own Supervision strategy, drawing on these, is elaborated.

Method
Qualitative research is about something that people call lived experience (...) in contrast quantitative research, which typically uses pre-prepared survey questions (Silverman 2016). For this study a qualitative method was chosen as the in-depth views, perspectives and experiences from senior
doctoral supervisors was deemed necessary for a better understanding of the topic at hand. Qualitative studies from a minority view (arguably what this study is pursuing) is according to (Silverman 2016) an approach suitable to meet the above objective. Minority in this context means that the study is focused on the opinions and in-depth perceptions of a smaller group of people rather the statistics of a larger population.

**Literature study**

Literature search and review was carried out (including recommended course literature of the Supervising Doctoral Students course) in order to better understand recent and historical findings and to further elaborate on and better understand the role and the challenges of guiding doctoral students to completion. Primo, the search tool of U Borås University library was the primary search tool. Further, Google scholar, Google and Wikipedia were used as secondary tools.

**Observation**

An observation was carried out with a Senior doctoral supervisor and his student on the 23rd of January 2020. Observations can be beneficial as a complement to other data collection. To be involved more directly in the observation process to improve the quality of teaching is stressed by (Hall 2014) to be a great tool for a more full understanding on the phenomenon studied.

**Interview**

In order to process and reflect on collected data. The same day, immediately after the observation as described above, a semi-structured interview with the supervisor in question was carried out. As (Swanborn 2010) states, it enables us to understand emerging problems and their practical solutions in the social system under study.

An experienced PhD supervisor was interviewed face to face at the Sandgärden Building at University of Borås. The supervisor in question is working at the SIT (sektionen för Informationsteknologi) and both the student and the supervisor are part of INSIDR, Industrial research school. This semi-structured interview was recorded using the sound recorded on a portable computer and later on transcribed for accuracy. In accordance with (Recker 2012) a researcher must not misuse collected information. Further, the involved respondents’ confidentiality must be ensured in order to safeguard their anonymity and personal integrity (Recker 2012). Both the PhD student and the research supervisor in this study are therefore kept anonymous. Natural objects have no precautions whatsoever in reacting contrary to the expectations of the researcher, human beings quickly lose their recalcitrance by complying with what scientists expect of them (Tanggaard 2008). However, with relatively open semi-structured interview questions from the interview guide and follow up questions related to and reflecting on what the respondent is saying, the risk for the respondent not being heard and the need to object is relatively low.

**Empirical Studies**

**Observation**

Students and researchers have often been reluctant to initialize observation studies for several reasons (Tjora 2006). However, The interview provides leads for the researcher’s observations, while observations suggest probes for interviews (Tjora 2006). This is clearly visible in this study as some of the questions during the interview came from the observation.
During the observation the atmosphere was calm, friendly and relaxed. The student mentioned that they had relatively frequent, but short session at least once or twice per week, mostly face to face. The session started with setting up the time for the next session and then proceeded to a recap of what they talked about on previous session and a follow-up on the progress on courses (mostly in Skövde) and current work with papers. The course studies were going smooth and all deadlines have been met, but when it came status on papers and texts it was clear that there was a lack of progress on what was agreed from the previous two sessions. The supervisor patiently explained that the supervisor is happy to support and advise on the tools necessary for the writing work, but the student must in return meet the deadlines they’ve set together and deliver on promises to maintain progress in the work. The supervisor also explained that it is also important to not agree to things that the student is unsure about whether it is possible to deliver. After some more general follow-ups and discussions they went through the deliverables for the next session and the supervisor concluded with the student that the date and time for next session may need to be postponed should the student still be lacking in progress.

**Interview**

The Interview in this study, the supervisor expressed the need to be very clear with the directions and objectives when dealing with the student. To be ‘on the same page on the goals’. It is important to give opportunity to explore with an open mind. Targets on publishing etc. must be clear. It is important to be helpful and supportive yet avoiding letting the students ‘outsourcing’ the problems and work to the supervisor. The supervisor states: every situation is different. Some work is on the side of supervisor others on the student. It can be compared to teaching a child how to walk, step by step, to help less and less as they are more empowered. Further the supervisor states: I am a resource, they are the project manager. Further ‘It’s a journey and there is a diary. When things are not going according to plan, try new strategies, be clear to say this is what I expect! and as a last resort, document it as you go and if still lacking sufficient progress ultimately ask the student: Do you really want to do a PhD?’ This specific student is still struggling a bit as an overdue article is yet to be published.

The researcher also adds, to have multiple advisors is hard with the challenge to listen more to one than another and when there are different directions from different supervisors, it can be hard for the student to choose whom to follow. The INSIDR supervisors are in Borås and Skövde with joint meetings roughly every second month.

When it comes to the goals and objectives of the INSIDR research program we aim for the student to finish within the 5 year time limit and to become a genuine and honest researcher, by living as we preach. For instance you need to learn from paper rejections, and to not just send it in again. The ISP (Individual Study Plan) is not completely within our control, but it’s a living document. We must not put too much weight on ISP in terms of progress, but OK, as we don’t have a better tool, we are using it. We must, however, be flexible and always keep the overall objectives in mind. The Strategies, methods and models for supervision needs to be adjusted as few or no tools are one-size-fits-all. It is case by case, some students are self-driven, others will need to be lead. It is important to be driven by deadlines and structure. To track progress and it should not happen randomly. First item on each session should be, when do we meet next time. Follow up on progress from last time in diary, to make sure we have progression rather that duplications. ‘Tick off the list’. We need an event driven structure and regular scheduled meetings, but with flexibility. The supervisor further state that the role and responsibility from a general and ethic point of view is to help the student become a good researcher and become a doctor. These two are unfortunately not always the same. The quest is to generate objective knowledge, not just pleasing the financer. In the old days, some researcher did it only by
motivation. It is difficult for any researcher to balance between consulting work and research. This is another area where the researcher is trying to support the student.

Supervising Strategy

Role and responsibilities

Even if the supervisor has designed the project and is the project manager, she/he is not the manager of the PhD student (Brodin, Lindén et al. 2016). This can sometimes give a situation with confusion where the PhD student feels that there is not one clear chain of command. This must, naturally, be avoided but can be easier said than done. One way to avoid this can be to make sure that the supervisor and student are very clear what decisions are made by whom. For instance, it can be a good idea for supervisors to have ongoing discussions and follow up with the relevant line manager.

In this specific case it is the Section Manager of SIT (Sektionen för informationsteknologi). It is also important that we keep coordinating with Skövde University (where my student takes most of his courses) to make sure the workload and expectations are realistic. Another job that is important for supervisors is to teach Johannes to say no and not always ‘take one for the team’ when it comes to the courses on our undergraduate programs.

Individual Study Plan (ISP) together with Planning and Implementation

In many aspects a Doctoral study endeavour is a project and one can look at an ISP as project management tool. It is interesting to see from the interviews (plus mini-study and workshop afterwards) as well as panel discussion how different the supervisor’s views are on the ISP. Everything from a crucial planning tool to a necessary evil. It proves that, however different personalities, mind sets and opinions, multiple views and perspectives are necessary to produce strong new PhDs. In our own situation we’ve decided to follow the ISP, but not to be slaves to it. In these less than two years so far, we have already adjusted the timelines and priorities a few times and informed the two unis involved (Skövde and Borås) accordingly. For instance, one paper publication was somewhat delayed (due to waiting times in review process) and one course was taken earlier than anticipated. The three supervisors and the student were quick to agree on this change, but research administrator in Skövde was critical at first. This was, however, probably just a lack of understanding on the side of the administrator and needed to be explained clearly.

Everyone can agree that it is desirable that both education and research is high quality (Brodin, Lindén et al. 2016). However, as some of the students may be affiliated with multiple Universities (e.g. U Borås, Skövde, Jönköping, Gothenburg etc.) the ISP is also an important reporting tool and even a documentation tool. For instance, the INSIDR Industrial PhD school is a collaboration with U Borås (project manager) Jönköping University and a number of companies. The typical Doctoral student will typically be employed at U Borås, study most of the courses at Jönköping U and spend a few days per week collecting data at a company (e.g. Ellos). The ISP is then an important part of the formal ‘glue’ that ties everything together. As the Supervisor wisely point out in the interview: The ISP is not completely within our control. We must not put too much weight on the ISP in terms of progress, but OK, as we don’t have a better tool, we are using it. We must, however, be flexible and always keep the overall objectives in mind.

Further in University of Borås, the ISP, also regulates the salary through Doktoradtrappan (the doctoral development steps). They higher the step on Doktorandtrappan the higher salary. However, it is
important to not be slaves to the ISP as it may sometimes be beneficial to do things in a different order than originally planned and/or to put a little less emphasis on something in favour for something else. Another example is when students have submitted a paper and is waiting for reviews. It is simply not meaningful to work on that specific task even if the time plan says so. The ISP must be a dynamic document which is guiding student, supervisors, administrators and other indirect stake-holders without being slaves to it.

To write the thesis, pass the final comprehensive examination (Swe=disputation) is a requirement, but there are also other compulsory requirements to meet in order for a PhD student to successfully reach the degree of Doctor (Brodin, Lindén et al. 2016). It typically involves a fixed number of courses and course credits, Research proposal & RP seminar, various seminars, the thesis in itself, slutseminarium (‘final seminar). This above also differs from uni to unı. Further a number of papers are required, especially if the students writes a compilation (sammanläggningsavhandling).

Influence of values, ethical considerations, and power relationships
Besides the direction and quality of the PhD students research is importance of their academic identity and integrity regardless of where they will operate (Brodin, Lindén et al. 2016). It is crucial that the supervisor(s) guide the PhD student in these sometimes delicate matters. A breach of ethics can for instance be general cheating such as copying other researchers data and texts, using research data without the respondents consent, failing to respect the confidentiality and data protection etcetera. The above can sometimes conflict with the students eagerness to ‘get the job done’ and present interesting data and it is important for the supervisor(s) to guide the student. Open minded supervisor can show examples of ethical consideration and discuss these different perspectives. Ethical considerations are far from the same for every person and differs in cultures, geography and also over time.

To have supervised PhD student(s) is important and often time an absolute requirement to be promoted to Associate or Full Professor (...) at the same time there is a shortage of PhD students in many subject areas (Brodin, Lindén et al. 2016). This is normally not a problem, but it does mean that also senior academics with little passion for teaching will end up being supervisors. Which may lead to that not all students get the support and encouragement needed.

Another aspect here is power imbalances in the supervisee-supervisor relationship. The supervisor is research project manager which means there is a built-in potential power imbalance where the student still sees the supervisor as a manager. Further, when the student feels that there is a power imbalance with the supervisor, it does not matter whether that power imbalance is real or perceived. It is common (according to colleagues in Borås and other unis) that PhD students are doing research funding application work, which is unpaid work that slows down the overall progress. In our panel discussions it was clear Professors. Beach and Dumitrescu strongly disagrees to this practice.

From my own PhD student experience with a Senior professor from Gothenburg University he took for granted that it was my duty to help without compensation. I refused, but he was obviously upset about that. I later found out that it was common practice by him to force his own PhD to coordinate conferences, help him with funding applications and just being his assistants in general. He would say things like, ‘its you job’ and ‘why do we have to pay you for this?’. When speaking to my peers in Supervisor course and other colleagues, this is relatively common. I see it as my duty that my PhD students shall not abused in this way.
Misconduct in research how to prevent it
Should the supervisors see any indication of misconduct in the PhD students’ work it is important to bring it up immediately and if it’s repeated, escalate the matter. In order to prevent this, besides clear guidance and dialogue as discussed in previously. If the problem persists, it must be brought up with the other supervisors and when applicable with other research colleagues. A further escalation to relevant immediate line manager superior and ultimately the dean may also be necessary.

Priority conflicts between research projects, the doctoral student’s development and independence (and teaching assignments)
Another issue making it very hard for the Doctoral study endeavor is the built in fact that the time allowed (4.5 years for full time) and that outputs are fixed, but each individual is different. Another issues is as (Brodin, Lindén et al. 2016) points out that the view of research education as an education is put on top of the view of the research education as research, the interaction between the two can be hard to manage. Another difficult challenge for PhD students is that most of them are required to teach. On average it is supposed to be 20% of their time throughout the 5 year period. But if they are every year asked to contribute in new courses the preparatory work may be much more than the 20%. Partly because they haven’t taught the course before, they may be inexperienced teachers and often times overzealous. These 20% can easily end up being 60 or 70% instead. It is important for the supervisor team to keep an eye on this so that the teaching efforts are not a threat to the overall wellbeing and progress for the student. In the case of our PhD student I help him to review the teaching workload to make sure that it is manageable for him. This is bit extra important in Sektionen för informationsteknik as we are desperately understaffed (the System Architect Program was even paused (again) for this reason). I am therefore actively pushing for my student to not always ‘take one for the team’ and helping the section and colleagues out when it’s actually not his job. It is a lot easier to do this for me, not only because I’m already Assistant Professor, but also because I’m an experienced teacher and now the relevant manager since I started at U Borås in 2007.

Support of doctoral student’s writing process
With the Bologna reform 2007 came the rule that every PhD student must have at least two supervisors and one will be assigned primary supervisor (Brodin, Lindén et al. 2016). It is not uncommon that there are in fact three supervisors, two secondary and one primary. In a perfect world the different supervisors have different background and different skills to bring to the total project. Alm stresses that it is important for supervisors to remember who they are and who they are not and that there is a team of supervisors that are good at different things and not alone but rather together making sure that the student get a complete package of solutions to reach the goal of a reaching the PhD degree and even more successful become a successful researcher and teacher.

In the case of my own PhD student, he has three supervisors. The (Primary Supervisor) is an Associate Professor with solid technical experience in data analysis system optimization, relevant to the student’s ambition and with a primarily quantitative approach. He is perhaps a little less focused on the softer aspects of the PhD students journey. The Secondary Supervisor, an Assistant Professor, with great academic writing skills, also has mostly an Quantitative approach. He is also a bit less focused on the softer aspects of the learning. Lastly, myself as Assistant Professor and secondary supervisor, a less impressive (and less published) academic, who struggled throughout his doctoral studies, but over
twenty years of IT industry and with a high portion of ‘street smarts’, with primarily a qualitative approach. Alm also has extensive project management skills, that has already proven useful. Half jokingly, I have told the student that I can help him to learn from all my mistakes as PhD student and that he can make new ones rather than repeating mine. As (Brodin, Lindén et al. 2016) claims, it is also necessary that there is someone else who possess the knowledge that the student needs and is willing to invest time in the PhD student and who’s happy to talk about more than just the thesis. This is also a role that I’m happy to take. The above are very different individuals and may individually not be able to bring John all the way to the finish line, but together we build a strong team and complement each other really well. The student and the supervisors believe the mix described above will be successful.

From Alm’s own experience as a PhD student, besides the above, there were a number of phases through the process of becoming a Doctor, therefore it is likely the support from the supervisor(s) will need to differ in different periods for this student as well. A part of the process for the PhD student is a development of the personality from being one human to becoming another (Brodin, Lindén et al. 2016). As this person changes the needs will too. In this situation it will also need that the type of support from supervisors will be different and that another person among the supervisors may be more useful than another one. In the case of my PhD student it may lead to a short from using the support more from the primary supervisors to one of the two secondary supervisors. In the panel discussions it was clear that the style and the personalities of Professor Dumitrescu and beach were quite different and for a PhD student it is likely that these different styles of supervising will be more or less useful in different stages of this personality change of the student.

Further, in conclusion, each PhD student is different and therefore will have different needs. In order to elaborate further on the above. To have a group of supervisors with different, focus, experience and personalities can be beneficial if used correctly. Further to the above, the supervision needs also varies over time and therefore the group of supervisors need to be responsive and agile in order to facilitate the ongoing progress. The ISP is, if handled wisely, a useful project management tool. The ISP can show when timelines are sliding and early show delays in the progress. It is, however, equally important that the ISP is updated continuously so that it reflects reality and does not become an obstacle to the overall progress. It’s not only the thesis and the doctoral degree that matters. It is even more important that the PhD student becomes an effective yet ethical teacher and researcher.
References


Brodin, E., et al. (2016). Forskarhandledning i teori och praktik, Studentlitteratur AB.


How should case studies be selected? Is case study methodology fundamentally different to that of other methods? What, in fact, is a case? Case Study Research: What, Why and How? is an authoritative and nuanced exploration of the many faces of case-based research methods. As well as the what, how, and why, the author also examines the when and which - always with an eye on practical applications to the design, collection, analysis, and presentation of the research. Case study methodology can prove a confusing and fragmented topic. In bringing diverse notions of case study research together in one volume and sensitizing the reader to the many varying definitions and perceptions of 'case study', this book equips researchers at all levels with the knowledge to make an informed choice of research strategy.


Attachment 1 – Interview guide

Initial question:
-What do you think makes a good research supervisor:
-Are the students sometimes ‘outsourcing’ their problems to you?

Core questions:
-what is your attitude towards:
  • the goals and objectives of the research program
  • The Individual Study Plan (ISP)
  • Strategies, methods and models for supervision
  • The supervisors’ role and responsibility
  • Research ethics and other ethical considerations