An analysis of the meeting between supervisor and PhD student in medical and social faculties

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“Tell me and I'll forget;

show me and I may remember;

involve me and I'll understand.”

Chinese proverb
Background

Supervision can be defined as an act where an entire group of professionals takes part in maintaining their professional norms and where the student is supposed to later on belong to the group of professionals on the same terms as the supervisor. Supervision of PhD students is somewhat special and is normally characterized by collaboration over several years and where there is a strong focus on development of independence of the student.

There have historically not been any regulations for how a PhD education should be conducted with regard to supervision but there has been a growing interest in this field. This has resulted in an attempt to formalize supervision with education for the supervisor and requirement for more than one supervisor per student which actually was suggested as early as in the 50s (Appel and Bergenheim, 2005). Since then end of the 1990s, there has been a shift in the pedagogical debate regarding teaching. “From teaching to learning” (Bowden and Marton, 1998) was coined and summarized the new ideas. Earlier it was sufficient that the student had a good knowledge of the field of interest but currently skills such as flexibility, versatility and communication are more emphasized. Other important aspects of supervision of PhD students include making the student an independent researcher, develop critical thinking and ability to take own decisions. In several propositions, the government stresses the importance of the PhD education for preparing the student for a carrier outside the University (Governmental p2000/01:3. Forskning och förnyelse; Governmental proposition 2004/05:80. Forskning för ett bättre liv). According to the Bologna process, the PhD education is part of the University system. In July 2007 started the process of complying with the Bologna
process at the Sahlgrenska Academy. According to this process, the PhD thesis itself is not the goal but is rather a means for achieving the needed skills. In order to achieve these needed skills, one of the most important factors is the supervision. Despite the fact that several guidelines for supervision of PhD students exists (Governmental proposition 200/01:3 Forskning och förnyelse; Appel and Bergenheim, 2005; Lauvås and Handel, 2005), the process of supervision is still a grey area that is conducted within closed door and the interaction between supervisor and student lacks insight from others.

Due to this lack of insight, it is important to note that during a PhD education different negative situations can occur between the supervisor and student. In order to gain a better insight into this process of supervision, two large surveys were conducted in Sweden 2002 and 2007, resulting in Doktorandspegeln 2003 and 2008 respectively. Both surveys demonstrated similar results showing that most students were satisfied or very satisfied with their education, especially for students at medical faculties. Despite this, there are shortcomings in supervision of PhD students. It was demonstrated that PhD students can experience a negative dependence to the supervisor and that both supervisor and student can be unsecure regarding what is expected from them (Lindberg-Sand resp Bjuremark in Larsson and Linden ed. 2005, Doktorandspegeln, 2008. The criticism from the students mainly relates to their view that their supervisor in not sufficiently engaged in their studies and have not enough time for discussions. As much as 40% of the PhD students consider themselves not having obtained sufficient supervision from their supervisor/supervisors and more than 25% of the students considered that their supervision has been a direct obstacle in their PhD studies. About
25% of the students have changed supervisor or significantly considered changing supervisor (Högskoleverkets Doktorandspegel, 2003). The students also considered there to be a shortage in constructive criticism from their supervisor on their research topic, methods, theories and text.

When supervisors was asked to comment on the results of Doktorandspegeln 2003 (Jacobsson 2003) it appeared that the supervisors and students did not have the same view on what supervision is and that there are some aspects of supervision, such as reading articles and reports, that the students do not view as supervision. The supervisors also had different views on what to expect from a PhD student, for example some of the supervisors claimed that students not having the ability to work independently is not suitable for a PhD education while some of the supervisors wanted to take a more active role in their education. Financial restriction was also one reason for shortage in quality and quantity of supervision.

Supervisory guidance for PhD students has become an important research area the last years. According to a number of surveys performed among PhD students, these students prefer supervision that involves professional guidance combined with personal care. Accordingly they want a supervisor that knows his/hers subject, that is accessible, helpful and stimulating and that supports the process of developing the PhD student to an independent researcher (Brown and Atkins, 1988). Another trait that is expected from a supervisor is that he/she should be a good leader, plan projects together with the PhD student so that the student is able to organize and perform the study step by step. Wisker (2005) writes "A manageable piece of research might be produced at the
expense of real creativity and contribution to knowledge. Students can fail. Debates about supervisory practices and their development are located right at the centre of such tension”. A research project should thus be complex enough to create certain problems, that supervision can centre around resulting in the fact that the PhD student’s research identity and competence is developed.

Some of the important factors in supervision are communication and finding an adequate model for guidance of the student. It is thus about advising, nourishing, instructing and supporting the PhD student (Bowden and Marten, 1998) and not that the supervisor should control the student within tight frames. The goal for the supervisor is thus to support the student in his/hers decision and learning process so that the student refine these important skills for future use (Flammer, 1990). The supervisor should therefore promote a positive, constructive and critical dialogue that follows for an open and reflecting process. If the focus instead is directed onwards a certain knowledge, the ability of the student to reflect and learn can be hampered (Karin Åberg, 2009). Supervision can thus be understood as an interactive process where both student and supervisor undergo mutual development.

In this study I have chosen to focus on the meeting between PhD student and supervisor at medical and social faculty in order to see if there are differences between faculties and if we can learn from each other.
Method

A web-based questionnaire was created on the SurveyMonkey website, see appendix 1 for the questionnaire for supervisors and appendix 2 for the questionnaire for students. The aim with this questionnaire was to obtain an overall picture of the student and supervisor satisfaction regarding supervision at medical and social faculty at the Gothenburg University. One limitation with SurveyMonkey is that you are only allowed to have maximum 10 questions per questionnaire. I therefore had to merge some of the questions which might not be ideal but I could not detect any confusion or missing answers due to this. A link to the questionnaire was sent out via email to 50 (10 replies, 20%) supervisors and 55 (11 replies, 20%) PhD students at medical faculty and 132 (11 replies, 8%) supervisors and 63 (10 replies, 16%) PhD students at social faculty. The departments chosen from the medical faculty were department of microbiology and immunology, department of clinical chemistry and transfusion medicine, department of medical genetics and clinical genetics and department of medical chemistry and cell biology. The departments chosen from the social science faculty were department for social work and department for sociology. The medical students chosen were those registered as having a PhD employment according to KataGU and the medical supervisors chosen were those having an associated professor or professor title according to KataGU. The PhD students chosen from medical faculty were those registered as PhD students at the faculty homepage and the supervisors chosen where those registered as teachers or researcher at the faculty homepage. The fact that I was not able to discern which of the teachers and researchers at the social faculty that supervised students likely explain the lower reply frequency from this study group.
Several of them also replied to me that they had not filled in the questionnaire due to the fact that they did not supervise any PhD students.

Three auscultations at each faculty were also conducted and supervisors were chosen from the departments mentioned above. At the auscultations I chose to focus not on group meetings/supervision but instead meetings were only one student meets his/hers supervisor. All six students had done at least half of their PhD education.

Results

Results from questionnaire:

Students at medical faculty have meetings with their supervisor 16 (median value, range 1 per semester to once a week) times per semester while the supervisors estimated their number of meeting with their students to be 32 (median value, range once a week to every day) per semester. Students at social faculty have meetings with their supervisor 4 times per semester while the supervisors estimated their number of meeting with their students to be 3 per semester with a very limited range. There were no significant differences in the estimated number of meetings between the students and the supervisors at both faculties. Supervisors at both faculties considered the number of meeting to be sufficient. Two students medical faculty and one student at social faculty considered the number of meeting to be too few. Results summarized in figure 1.
Figure 1: Median number of meetings between PhD students and their supervisor per semester.

About half of the supervisors at both faculties reported that the time for the meetings is planned in advance while the others reported that the occasion of the meeting is occasional. The same distribution was seen for the students. While all supervisors considered their setup working, 2 of the students at medical faculty and 1 student at social faculty were not satisfied and would prefer more planned meeting.

The estimated length of the meeting for students at medical faculty was median 1 hour and for the supervisors 2 hours and corresponding numbers for the social faculty was 1,5 and 3 hours respectively. There were no significant differences in the estimated number of meetings between the students and the supervisors at both faculties. Both students and supervisors were satisfied with the length of these meetings. Results summarized in figure 2.
Figure 2. Length of the meeting in hours.

The focus of the meeting according to the supervisors and students at social faculty is discussing texts written by the student and planning studies. This is what both of them consider needed. On medical faculty on the other hand the focus is instead according to both students and supervisors planning studies and discussing results.

27% of the students at medical faculty would like to an even larger extent discuss and plan studies with their supervisor. One student wanted his/hers supervisor to look through what is missing in present studies for faster and better publications another one wanted more deadlines to work against and a third that the supervisor should check with the student if the workload is OK, how the student experience the work progressing and psychosocial factors. None of the supervisors at medical faculty suggested any improvements.
Of the students at social faculty, one asked for clearer goals and sub goals for the projects and another student wanted to discuss also other topics with his/her supervisor than text such as conferences and possible articles that can be written. One of the supervisors at this faculty wanted the students to be more prepared, like having written more texts etc.

Almost all students and supervisors at social faculty have discussed the format of their student–supervisor meetings. The same is true for the supervisors at medical faculty but only about 50% of the students at medical faculty consider themselves having discussed this issue with their supervisor.

Figure 3. Ratio of students or supervisors that have discussed the setup of the meetings.

Regarding the process of writing an article, the process seems to be very similar for both faculties with planning the outline; student writes and gets feedback from supervisor. One supervisor let the student present the article at a seminar when the article was
ready in order to get more comments and other researchers’ opinion. One supervisor commented that he/she felt that he/she sometimes gives too much input (English editing, even occasionally theoretical suggestions for their analysis). Two of the supervisors at medical faculty commented that their students are responsible for writing the material and method section as well as the result part while the supervisor either writes or to a large extent writes those sections. Supervisors at the social faculty on the other hand let their students take a more extensive responsibility for the paper. One of these supervisors wrote “In general I see the students papers as their work, my job is to help the student focus, guide and support students to a successful submission and acceptance for publication”. The majorities of the students at medical faculty take the major responsibility for this writing process and get constructive feedback from their supervisors. Despite this, one of the students at medical faculty is only involved in the proof reading of the article while for two other students the supervisor rewrites extensively. One of these students also felt that the feedback from the supervisor was lame and rarely constructive. ”. All of the students at social faculty take the major responsibility for this writing process and get constructive feedback from their supervisors.

All supervisors at social faculty were satisfied with the process of writing an article but one of them found the issue of publishing together is a bit blurry—he/she found it hard not to ‘give’ ideas of analysis, as suggestions, but then as students write up, he/she sometimes wonder if he/she should not be a co-author, as the ideas he/she have given can take varying weight in the students argument. All supervisors also at medical faculty was satisfied with this process but one wrote that he/she felt that student don’t work it
through to the absolute best of their abilities before handing it to he/she for comments. Two of the students at medical faculty was not satisfied and wanted more guidance and involvement of their supervisor. As one of them wrote “The setup I have now allows for large freedom which is nice, however, there might have been too many bumps on the road that could have been averted if my supervisor had been more present”. About the same situation was seen for students at the social faculty where one of them was not satisfied. He/she instead found support in an external partner (not supervisor) as well as the “reading group”.

**Results from auscultations:**

No significant differences were detected when performing the auscultations at the two different faculties. At all six occasions, a very open discussion was held between the student and the supervisor. The supervisor and the student had different roles in the project/meeting. At medical faculty, the first auscultation performed was at a meeting regarding how to proceed with the current study. The student were the one with practical knowledge regarding the methodology used, it’s limitations and possibilities while the supervisor had a broader knowledge about the specific field of interest and the questions of interest to solve. As an example, the student in detail explains the procedure for the method developed, number of substances that can be tested per day and concentrations of interest, supervisor comment on how to mix substances to increase speed in method (notes 120610). They together found out what question could be solved with existing methodology and collaborations. The student was very independent in his work and I got the impression that there was a strong mutual respect for each other’s knowledge and a positive dependence. This mutual respect for each other was also seen
as both of them having high expectations of each other. As one of the first questions at the meeting, the supervisor asked the student “Are you satisfied with what you have achieved?” (notes 120610), which I consider reflects the expectations. The atmosphere was relaxed and the meeting very focused. It was give and take from both of them during the meeting and I think they complemented each other very well. They did not have a specific agenda to follow but they efficiently discussed the issues that needed to be solved in order to proceed with the study. At another auscultation at medical faculty, results from a study performed were discussed. The student presented the results obtained and there were a discussion regarding if additional studies needed to be performed in order to complete the study and if so, what experiments needed to be performed. There were an open discussion between the student and her supervisors but I got the impression that the supervisors were not entirely familiar with the aspects they were discussing since it was mainly methodological issues. I also got the impression that despite the fact that it was an agreement regarding how to proceed, there were some uncertainties regarding the practical issues of this.

At all three auscultations at social faculty, text written by the students were discussed. I got the impression that the supervisors had thoroughly read the text discussed. In two of the three occasions, both main supervisor and co-supervisor were present at the meeting. There were in all cases an objective discussion regarding the topic and all part seemed to be well acquainted in the issue discussed. This was for example demonstrated by the supervisors at several occasions suggesting articles that were relevant to include as a reference in the discussed text, have you read the paper by… (notes 120525), was a frequent comment from the supervisors. The level of details differed between the
meetings, in some occasions only the overall topic was discussed and different arguments and angles for the topic of the text while at other occasions linguistical comments were also delivered.

**Comments and conclusion**

According to statistics from SCB 2010, the number of students that today obtain a PhD degree within the specified time frame is significantly increased compared to 1980. Despite these positive figures, this does not tell us anything about the quality of the education. The quality relies on the supervisor’s knowledge within the specific field but also on his/her creativity, flexibility and ability to inspire as discussed above. These traits are of course much more difficult to measure than the number of graduated students. Part of these traits can be taught as pedagogical tools but other parts relies more on the supervisors talent to achieve and maintain an open discussion with the supervisor. For this part, the supervisor’s social ability is highly important.

The importance of the quality of the PhD education was highlighted by Lars Leijonborg handing in a proposition to the government in March 2009 where he emphasized that the quality of the PhD education is more important than the number of examined PhD students.

One crucial part of the quality of the PhD education includes the supervision of the PhD student, an interaction that caught my interest. It is of course impossible to tell how
representative the replies I received for the questionnaire is for the entire population of PhD students and supervisors. What can be said is that the questions that are similar to the ones in Doktorandspegeln roughly received the same grading in the both studies.

The numbers of meeting were significantly fewer at medical faculty compared to social faculty. Despite this, the level of satisfaction for both supervisors and student were the same, suggesting that this difference is valid with regard to the nature of the work at the different faculties. Despite the fact that there were no significant difference in the estimated number of meetings for students and supervisors at medical faculty, it is interesting that the supervisors estimated the average number to be twice as high as the students. If this depends on the fact that I did not get replies from student-supervisor pairs, that supervisors overestimate the number of meetings or that students and supervisors have different views on what should be regarded as a meeting is of course impossible to tell. It is also of interest to note that while all supervisors were satisfied with the number of meetings, two students at medical faculty and one student at social faculty were not. The same is true for the nature of the meeting where all supervisors was satisfied while two students at medical faculty and one student at social faculty wanted more planned meetings instead of the ones more occasional in nature. These results are also in line with the replies on the question regarding improvements of the meetings. Only one of the supervisors suggested improvements for the meetings (student should be more prepared) while an increased number of the students did (more extensive discussions with their supervisor regarding planning and results, deadlines to work against, psychosocial factors, clearer goals and sub goals for the projects and discussions regarding conferences and possible articles that can be
written). A more open discussion regarding how supervisor and student should collaborate would solve this issue. I found it very encouraging that almost all students and supervisors at social faculty have discussed the format of their student–supervisor meetings. The same is true for the supervisors at medical faculty but only about 50% of the students at medical faculty consider themselves having discussed this issue with their supervisor. Such a discussion can suggestible result in a contract/agreement between the student and the supervisor containing details regarding what the two parties can expect and not expect from each other in order to make this even clearer. Perhaps the supervisor can also involve someone more accessible than perhaps the supervisor him/herself, such as a postdoc, that in some instances can take the role of the supervisor and not only increase the number of meeting for the student but also adding another angle of knowledge to the student and project. Another way for the student to gain valuable input on the project is to present it at department meetings or other types of meetings where a larger number of researchers are present. This was also suggested in the questionnaire.

In general, the students, especially at medical faculty, wanted more structure with clearer goals, planned meetings etc. I think The University can learn from the industry in this aspect where clear goals and structure is utmost important. For example, sticking to an agenda, having a plan for each project as well as the PhD education, keeping notes of meetings, providing documentation of the process, and keeping that timetable and those deliverables in sight provide tangible evidence of progress and prevent many unwanted surprises. For both students and their supervisor, a Monthly Progress Report can be valuable (for the supervisor to get a summary of the results and progress and for the
students having to think through what has been performed and also check how this fits with the plan). This would also be valuable for the students in the long run since it will prepare them for working within the industry, which also was desirable according to Lars Leijonborg.

With regard to the length of the meeting, the meetings are somewhat longer at social faculty compared to medical faculty. This is likely explained by the fact that the number of meeting at medical faculty instead is higher. I also suppose that the nature of what is needed to be solved or discussed at the meetings differs significantly between the two faculties that explain these differences (longer sections of text seem to be the main issue to discuss while some meeting for a student at medical faculty is for advice regarding how to proceed with a certain task). Both students and supervisors were satisfied with the length of the meetings.

My impression from both the questionnaire and auscultations is that the supervisors at the social faculty let their students take a more extensive responsibility for the paper/text written than at medical faculty. I do not know the reason for this but it might partially be due to the fact that at a medical faculty, the student’s PhD project is part of the supervisor’s research while at social faculty the student's research project is not so strongly connected to its supervisor's research. The resulting paper at a medical faculty will also be seen as the supervisor's paper and he/she therefore want to make sure it is presented in the best way possible. At social faculty, monographs are still more common that publishing papers and the monograph is instead seen as the work by the student rather than a joint effort. Perhaps this difference is also reflected by the higher number
of meeting seen at medical faculty compared to social faculty. This difference was also reflected in one comment from one of the supervisors at social faculty who wrote that he/she found the issue of publishing together is a bit blurry—he/she found it hard not to 'give' ideas of analysis, as suggestions, but then as students writes up, he/she sometimes wonder if he/she should not be a co-author, as the ideas he/she have given can take varying weight in the students argument.

The current regulations regarding compulsory pedagogical education of supervisors including education in supervision of students should in the long run result in improved quality of supervision of PhD students. In addition, an extensive survey needs to be performed in order to determine what is good supervision from both a student and supervisor perspective and how this relates to the current supervision situation. Such a survey could also result in a pamphlet of ‘best practice’ in order to give direction to new students and students experiencing difficulties. Such booklet should provide some tips and strategies that help the student and supervisor in their interaction.

I think it also would be beneficial if there existed some type of pedagogical discussion platform for supervisors where they could share experiences, reflections and give each other support. To my knowledge, this does not exist today. The current regulations state that each student should have a main supervisor and at least one co-supervisor and in practice most students have several co-supervisors. If this is the case, it would be beneficial if these supervisors met and discussed how supervision of the PhD student should be conducted (Bergenheim, 2000).
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Appendix 1: Questionnaire supervisors

General information:

What is your area of research: □ Medicine □ Social science

Meeting supervisor and student

1. How often do you have meetings with your student and do you consider this number of meetings sufficient:

2. Do you plan when to have the meeting well ahead or are they more occasional in nature (ie when some of you feel a need for a meeting). Do you consider this setup working:

3. How long time does such meeting last and do you consider the above length of the meeting sufficient:

4. What is the focus of these meetings (planning studies, discussing results, going through text written by the student etc) and is the focus of the meeting what is needed:

5. If not, how would you like to have these meetings, what is lacking and what would you like to omit:

6. Have you discussed the set-up of the meeting with your student:

7. Could you describe the process of writing an article and what input the student get from you (do you together plan the outline, at what stage/stages do you give input to your student, what type of input do you give etc):

8. Are you satisfied with the above process, if not, how would you like to change the process:
Appendix 2: Questionnaire students

**General information:**

What is your area of research: □ Medicine □ Social science

How long time of postgraduate studies is completed:

□ 0-24% □ 25-49% □ 50-74% □ 75-100%

**Meeting supervisor and student**

1. How often do you have meetings with your supervisor and do you consider this number of meetings sufficient:

2. Do you plan when to have the meeting well ahead or are they more occasional in nature (ie when some of you feel a need for a meeting). Do you consider this setup working:

3. How long time does such meeting last and do you consider the above length of the meeting sufficient:

4. What is the focus of these meetings (planning studies, discussing results, going through text written by the student etc) and is the focus of the meeting what is needed:

5. If not, how would you like to have these meetings, what is lacking and what would you like to omit:

6. Have you discussed the set-up of the meeting with your supervisor:

7. Please describe the process of writing an article and what input you get from your supervisor (do you together plan the outline, at what stage/stages do you get input from your supervisor, what type of input do you get etc):
8. Are you satisfied with the above process, if not, what type of input would you like: