

Written and oral opposition

This video module is going to be about your written and oral opposition.

Slide 2: What is the purpose of an opposition?

And the first question, of course, that most people would ask is: What's the purpose of the opposition? Well, the most important purpose is that as an opponent, you're going to bring a fresh set of eyes to the whole work. And this is very important because the writer of the work and quite often the advisor and examiner for the thesis have been looking at it in pieces as it was being developed. You'll really have the first chance to see it as a whole, and therefore it's very important because now your task is to identify the good and weak points of it and to identify any missing elements. Your secondary goal is, of course, you are trying to help the author improve their document or their oral presentation. And remember that you're seeing it as a draft, and so the author still has a chance to be able to fix it. So now is the time to give them the feedback because once it's finished, then, unfortunately, that's permanent. And most of the documents that you're going to be doing oppositions on are going to be public documents, and they're going to be available forever. And, of course, the third reason and this is I find one of the most interesting things about being an opponent, is it will really broaden your own knowledge. It will also, if you do some self-reflection, improve your own written and oral presentations. So for these reasons and for the fact that it's very important - if we want to get feedback from others, we have to be willing to spend the time and effort to provide constructive feedback to them. So it's very worthwhile to do a good job as an opponent.

Slide 3: Oral opposition – beyond peer review

Now, in this course and in many cases there are two parts to the opposition: an oral part - and this goes well beyond what you would find in the written part of a peer review - and typically the part is going to begin with a very brief statement about what the good points and suggestions for improvement are, and your overall impression of the report. So start at a very very high level. And then, in the case of thesis projects, an important part is that you now need to go on and lead the discussion about the student's presentation. And in that discussion, you want to focus on the essentials of presentation. You have time for the detailed comments in your written report. So focused on the most important things. And one of these is - Is there a better title for this report? Would you have understood things better if it had a different title? And perhaps it needs a subtitle. Why is this so important? Because this is going to be the first thing that most readers are going to see. And it's going to set the framework and their expectations for what they expect in the content of this report. So if the title doesn't match what's really in the final report - now is the time to say so! We also need to say: Is the problem clear? So you with your fresh set of eyes looking at this report are going to ask yourself: What really is the problem that they worked on (or he or she or they) because if the problem isn't clear - it's going to be very difficult for the reader to understand

what it is that the user has done and most importantly it is unlikely to have any significance. And remember in our earlier module we said that all research should be worthwhile - it should have some benefit. So, therefore, it should have some significance to someone. - therefore, you need to identify: Is an important problem? Have they missed the important problem or did they get focused on a part which wasn't so important - if so perhaps they would need to redirect their presentation to describe the things that really are important about what it is that they did, and why it was important, and what the implications are. Therefore, you need to understand and make sure that the report conveys who benefits from this and how do they benefit from it. The next thing to look at is the aims, goals, and methods. Do they really appropriately described what they are? And are they justified? Then you want to ask yourself: Were the results presented in a logical manner - so leading from the discussion to the conclusions? If they're not, perhaps you can help the authors improve that. And a very important thing, particularly in thesis projects and dissertations, is: Did this student identify future work? Should that work have been part of this work? Is there a reason why it was left out? Because quite often theses revealed many more new problems than they actually solve. Then the final thing is, what questions do you have after having read the report and listen to the oral presentation? Now is your chance to ask them - because this will help the authors to put into the report an explanation of these because in the future the next person who is going to be reading the report is likely not to have been at the oral presentation - so they won't have the benefit of being able to ask. So you, as an opponent, have an obligation to ask on their behalf.

Slide 4: Written opposition

Next is the written opposition. As we said, one of the key features of the written opposition is it is about constructive critique. You need to talk about the organization, the structure, and the layout of the report. Does it all fit together? If not, can you provide suggestions for how it can be better arranged? Is the literature study adequate? If you didn't know what was the topic - the essentials of the topic - before? Do you understand them now from the literature study? Do you understand how the author built upon the earlier literature? How did they go beyond what others did? Did they use the same type of comparisons as others did? Did they compare their work to what others have done? You want to critique the methods or methods that were used. Were they appropriate? Are they well described - so that you could take this report and go off and replicated it? And, of course, for the conclusions - Are they actually relevant? Are they meaningful? And do they follow from the discussion? And, of course, an important part: Is who should act upon these conclusions? And what is it that they should do - if they were to act upon it. Of course, you need to look at the references. Are they appropriate? Is each reference complete? Has it been used properly? And are there any obviously missing references? And it's a very important thing for you as an opponent - now is the time to identify anything that is false, misleading, or unclear- because as we've said before, after this the report's going to be finalized, and it will be too late to make these changes. Now in an appendix to your report, you can write very detailed comments about spelling, punctuation, grammar, and even such features as are the fonts in the figures too small for you to be able to read without having to blow it up to many hundreds of times the

normal resolution. If so, you need to let the reader [author] know that? You need to let them know are the colors bad colors. If the documents were to be printed in black and white, will the reader still be able to tell the difference between the different curves or even be able to see things in the figures? Look for missing labels in the figure and graphs. Have the authors had in their mind, "Ah! I know that the x-axis is this value, and it has these units" but they didn't actually put it on the figure itself. This is very, very critical because, again, future people won't have the opportunity that you do to be able to ask the authors easily, and the authors will not easily be able to make these corrections. So now's the time to really go into detail.

Slide 5: Evaluation criteria for the degree projects at KTH

But it's important to remember in the case of the thesis project, the criteria that are going to be used for the grading of the project. So this slide shows the criteria for a thesis to be judged excellent or good. And for it to be judged excellent, it means that the student really has to be able to independently plan and carry out the project within the agreed time frames. They have to show initiative because they need to show the independent ability to carry out a research project at this level. And the student has to be able to identify the missing knowledge, and they then have to go out and say, "Ah! I am missing that knowledge, but I can learn it". They need to show the ability to adopt to the perspective of someone else. So they need to be able to formulate the relative but constructive critique in their opposition for another student. And that was just with regard to the process.

With regard to engineering-related & the scientific content (of course), they need to be able to demonstrate that from the problem and/or inquiry that they're doing - that they've chosen the appropriate methodology and they have applied the skills that they learn in their previous studies in their program. And because this is Sweden, and it is part of the requirements for the degree, the student needs to be able to show (when it's relevant) that they understand the social, economic, and ethical aspects of their research. And we often talk about these as the three legs of sustainability. They also need to do a presentation. That means they need to have both a well-disposed report _and_ they need to be able to provide a good scientific argument in both the report and their oral presentation. They need to be able to clearly present the report orally. And, of course, they need to be able to engage with the opponent and the audience in a discussion of their work, And if they can't really discuss their work, then they can't be evaluated as being excellent. To be evaluated as good. The process is similar - they need to be able to plan and carry out the project within the agreed time frames, and they also need to be able to show independence and that they're open to critique. They also have to show that they can acquire new knowledge, and they also have to be able to adopt another's perspective and to be able to critique another's work. From the engineering and scientific content point of view. They need to do all of the things that you would expect at the level of good. That means they have to be able to do a good formulation of the problem, their modeling, their analysis, etc. all in a systematic way. And, of course, they need to address the ethical and sustainability aspects. For the presentation, it should again be a well-disposed report, and it should show good language usage and format. And they have to be able to orally present and discuss the project. But a difference here is that this is the ability to

discuss the project, whereas in the case of the excellent they should really be able to provide in real-time in the discussion responses for arguments to really dig deeper into the material than is contained in the thesis (perhaps) and to really be able to take questions with regard to further analysis of things they may not have thought of in the thesis. That isn't required at the level of good. They need to simply be able to present and discuss the project as reported in their thesis.

Slide 6: Evaluation criteria (continued)

Now, sufficient means that this student was able to carry out the project (again with within the agreed time frames), they took initiative, they were open to supervision and critique, they showed a sufficient ability to acquire knowledge (not that the good or excellent level but at the sufficient level), and they could, of course, carry out their work as an opponent - to be able to critique another's work. From the engineering related and scientific content, they need to be able to show that they can apply their engineering skills, and they need to be able to address the ethics and sustainability aspects. And for their presentation, the report has to have acceptable structure, format, and language. And they need to show that they can orally present the report. But in this case, they probably/typically aren't able to go into very much depth in answer to their questions beyond what has already been done in the report. But that they can answer the basic questions which are in their report, and that is at the sufficient level. At the insufficient level, which I hope none of you ever experience, the problems for process are the student didn't respect the time plan or the agreements, they weren't very independent, they disregarded supervision, and they lack the ability to acquire the necessary knowledge. From the point of view of engineering content and scientific content, the problem here is typically that the student lacks either the knowledge or the skills or the methodology - despite the requests of the adviser. Therefore they weren't able to actually have the content which they should, for the level of the thesis which they are writing. And for the presentation, the student lacks certain important elements of the written presentation, so pieces that are essential to the thesis are missing. And during the oral presentation, they actually can't present it well or discuss the project. In all of these three cases, it means that the student is going to fail; because to be able to pass, you have to have a grade of sufficient or better in all three aspects: process, engineering related scientific content, and the presentation.

Slide 7: Common mistakes

Now, some common mistakes to avoid when you're doing in opposition and the first of these - which is often very hard as humans to do - is [that] you make the mistake of attacking the person - it is not the person that you are an opponent for - it's the work that they've done. So it is not a personal attack. And remember, the whole idea is that you're trying to provide a critique to help them improve what it is that they are doing - either the written part or the oral presentation. Now, common failures for opponents (and I've seen this many times in dissertation defenses) is that the opponent doesn't push the student to demonstrate what it is that they really know - because as an opponent you have the advantage you have read the

whole thesis you've seen it as an entirety, you bring your fresh eyes to this, and now you're going to ask the critical questions - which the students themselves may not even realize - because they were very focused in on what they were doing - instead of stepping back and seeing the big picture. Therefore, it's your chance to help them show what they know. Another mistake is failing to go and follow the citations. That means it's really important that you actually go follow the reference. Look at it, read it, and ask yourself, "Does this really support what it is that they have said in the thesis when they're citing this." If not, you need to bring that out in your opposition. Sometimes it happens because they had something in their mind at the time, and they made a mistake. Sometimes it's because they were simply lazy or careless. But now is the time to fix this problem. You also need to prepare very thoroughly. It usually will take you a few days to one or two weeks - to prepare for an opposition. So don't fail to put in the time; otherwise, you won't be able to provide the depth of feedback that the authors really deserve. It's also important that you must not just focus on the negative - it's also really important for you to say some of the positive things about the thesis and that's why often one of the most helpful things that you could do in structuring your opposition report is to start with the positive - that gives the student a good feeling for what it is that they have done. You bring out the good things that they have done, and then they don't feel like you're just picking on them - as you go through the whole litany of things that are wrong or need to be improved. So start with the positive, then move on to the negative.

Slide 8: Special attention to Abstract(s)

Now, special attention should be paid to the abstract or in the case of theses and dissertations at KTH abstracts. Because it's essential that there both be English and Swedish abstracts. Why is the opponent so important here? Well, again, the opponent has seen the whole thesis, so the result is - they can have a very holistic view of the thesis, and therefore they can help the student to refine the thesis itself. And particularly refine the abstract, so the abstract very clearly needs to set the context - it needs to describe what the problem was, why the problem is significant, and what the significant results are. Now here we speak not of statistical significance but the actual import - what's going to cause someone to do something different based upon the results of this project. Now, as all thesis at KTH have to have both English and Swedish abstracts, but not everyone is a native speaker of either of these. The opponent, if they're capable, can help the students to refine the actual language used in the abstract. And there's nothing wrong with this! You want to help other students have the best thesis possible. And the two things that will really help attract readers to their thesis are (1) having a proper title that really represents what it is the thesis is about and (2) having an abstract that is a suitable representation for the contents of the thesis.

Slide 9: References

There are some additional references.

I hope that you will be successful in all of your future activities as an opponent,