[SPEAKER_00]
Welcome to this podcast, the PhD Process, Guidance for Students and Supervisors, an interview with Professor Terja Aven.
My name is Marja Ylönen and I'm working at the University of Stavanger as Associate Professor in Risk Management and Societal Safety.
You have supervised many PhD students, Terje, and I know that you are enthusiastic about the role and have a lot to say about being a PhD student and how the supervision should be conducted.

[SPEAKER_01]
Yes, I have and I'm enthusiastic about it.
Yes, I agree.

[SPEAKER_00]
And what is the first thing you would like to say to a student who is considering pursuing a PhD?

[SPEAKER_01]
I think the first thing I would like to say is to ask the student or the person, what motivates you to pursue a PhD?
Is it a desire to make a difference, to change the world in some way, to make it better?
Or is it primarily about becoming a researcher, a scientist?
Nothing wrong with being ambitious and like to make a difference.
But I think the second part is actually the most important one.
Learning to become a researcher and scientist.

[SPEAKER_00]
And why is that?

[SPEAKER_01]
It's because most of the time that is really what is the focus of the work, about learning to become a researcher, a scientist, and realistically.
The PHD will not change the world.
A contribution to the field you can make, but that is just a contribution and alone its impact would not be that important.
That is the hard reality.

[SPEAKER_00]
So if your goal is to change the world, you will quickly struggle.

[SPEAKER_01]
Yes, that's the point.
As you will see, that is not happening and instead you are faced with tedious challenges of getting some sentences right in the abstract and you need 14 trials and still the supervisor is not happy and basically replace your suggestions with his or her own formulations.

[SPEAKER_00]
So if I'm right, your message is, forget the idea of changing the world.

[SPEAKER_01]
Yes, rather one should think about the importance and enjoyment of becoming a researcher and scientist.
Only then there will be meaning in the small achievements, being able to write an elegant, accurate and useful sentence in the abstract, or being able to identify a tiny error in a published paper, or being able to outline how to conduct a minor adjustment of an existing method or model.

[SPEAKER_00]
I know that you consider writing scientific papers as really the key activity of the PhD study.
So you are not so positive to writing monographs.

[SPEAKER_01]
No, I will not accept a student writing a monograph as writing papers should be focused in a PhD.
The study program is about learning to become a researcher or scientist and without being able to write papers you have not obtained that skill.

[SPEAKER_00]
So you consider writing a paper as a skill?

[SPEAKER_01]
Yes, absolutely.
Like learning to bike.
It's very challenging.
And as a student, you need to work hard and you need strong guidance.
As for most people, it takes many years to become a good scientific paper writer.

[SPEAKER_00]
And this skill also builds on deep knowledge on the topic and creativity and much more.

[SPEAKER_01]
Yes, and students normally do not have that knowledge, in particular at the early stage of the PhD.
And being creative is difficult when the knowledge basis is weak.
So writing paper is challenging and the work has to be focused from the early start on that to be able to overcome, master this challenge.
I mean to get some deep knowledge in the field and get the first level skill in paper writing.
You are not done after three years working on the PhD, but it's a start and you should have a strong platform for further development.

[SPEAKER_00]
Many students struggle with the paper writing to have a progress.
What is your advice to them?

[SPEAKER_01]
Yes, that's true.
My advice is this.

Think small, well-defined, obtainable deliveries, such as writing one paragraph or half a page on a paper every day.
That delivery you can make and you get happy.
If you produce more than that, that's good.
And that will happen in some cases.
It's the bonus, actually.
So if you do not meet the goal, considering making even less ambitious goals,
Every evening I say, make plans for what to do the next day before lunch.
Work hard and focus before lunch.
After lunch, you can do other things more relaxed, including preparing for the next day.

[SPEAKER_00]
I'm not sure if this works for everybody, as some people are not very productive in the morning, but instead they enjoy long evenings.

[SPEAKER_01]
You're right, but there is a logic in this as you have energy in the morning after sleeping maybe some seven, eight hours.
Use that energy.

[SPEAKER_00]
How often should you consult the supervisor for help and guidance?

[SPEAKER_01]
It depends, of course, on what you are working on, but my general advice is to be in close contact with your supervisor.
Expect the supervisor to give feedback on the deliveries at least once a week when working on a paper.
Expect the supervisor to be giving quick responses.
If not, nudge your supervisor.

[SPEAKER_00]
Regarding the supervisors, how should they think in relation to this?

[SPEAKER_01]
I say, expect that the student needs extensive guidance on all dimensions associated with the PhD process and in particular the paper writing process.
A main goal of the supervision is to teach the student how to write a scientific paper.

[SPEAKER_00]
Responding positively to feedback from supervisors can be difficult when they point to serious problems with your text that you have worked so hard to produce.

[SPEAKER_01]
Yes, it is.
But you have to trust the supervisor's judgments.
You have to consider any feedback as positive and necessary to be successful.
Otherwise, things would not work.

[SPEAKER_00]
This can be difficult sometimes, I guess.

[SPEAKER_01]
Yes, but as a student your focus is on learning and improving, and if your attitude is not humbleness on this, the supervision role would quickly collapse. You need to believe in the process that it will work and lead to the desired results.

[SPEAKER_00]
Let us discuss the paper writing process in somewhat more detail.
How does the process start?

[SPEAKER_01]
It varies a lot, but first let me say this.
Do not expect that the student alone is able to suggest ideas for writing a scientific paper in high-quality journals.
That is too much to expect for most students.

[SPEAKER_00]
So there is a strong interaction between the student and supervisor at this stage?

[SPEAKER_01]
Yes.
What I use to do is to let the student make repeated trials to formulate ideas, what is the main idea of the paper and what is its scientific contribution, using one or two sentences only.
Discussing this clarifies if there is a potential for a paper, and the student will learn how to distinguish between what is the interesting topic and what is a research challenge worthwhile to look further into.

[SPEAKER_00]
What is the next stage then in the paper writing process?

[SPEAKER_01]
That varies also, but commonly it's about writing a preliminary paper title, an abstract and some section headings.
And again, I let the student make repeated trials to write this text.

[SPEAKER_00]
And am I right, you are seldom happy with the first version?

[SPEAKER_01]
No, normally it takes many iterations and often I also have to intervene and show how it can be done.
The students can learn a lot by seeing how a pro write the abstract, for example.

[SPEAKER_00]
So you recommend writing the abstract before the research is actually carried out?

[SPEAKER_01]
Yes, I know that not all researchers follow such an approach, but I think it's wise.
Note that it's just a draft, preliminary heading and abstract.
And also for the introduction, you probably have to go back and make changes at a later stage when you have done more research.
But the key is early to identify what is the contribution of the paper, the main ideas, the mountain to climb, as I often say.
If you have not specified the objective and the mountain, it's difficult to know where to put your focus and work, what means to use as you have not a clear picture of what to achieve.

[SPEAKER_00]
I see.
I guess the students often struggle with this early writing.

[SPEAKER_01]
Yes, a lot of guidance and help is needed.
And this is one of the most challenging parts of the research process.
The initial clarification of the objectives of the research and the approach to be taken to meet these objectives.
And if the students struggle too long, it's important to intervene and help the student by writing some text to show how it can be done.

[SPEAKER_00]
Do you see that as problematic?
Is not the work to be the student's contribution?

[SPEAKER_01]
Well, the paper would normally be a joint paper between the student and the supervisor.
The student typically the first author, but not necessarily for all papers.
So there's nothing special in that the supervisor also writes some text.
A PhD is about learning to become a researcher, as I said.
And to do this, you need help in paper writing.
as that is not straightforward.
If you do not need help, you do not need a PhD.
You already have the skill and knowledge.

[SPEAKER_00]
Many students and other authors often have documents with numerous comments, different colors, etc.
when working on a manus.
It looks chaotic.
I know you have some views on that.

[SPEAKER_01]
Yes, there can of course be good reason for such tools at some stage in the process, but I as a supervisor instruct the student to make the manus look nice at regular times, remove all comments, colors, etc.

I like to read a nice text where the student has made a choice, removed one possible formulation and kept another one, and so forth.

[SPEAKER_00]
Do you like to keep written or oral comments and feedback to the students?

[SPEAKER_01]
Both are needed, but often written is sufficient.
If there are issues that are difficult to understand, a meeting and discussions is needed.
But having meetings should always be with something produced by the students to discuss.

[SPEAKER_00]
Sometimes students just ask for a meeting to discuss something.
So you would avoid such meetings without any prepared text?

[SPEAKER_01]
Yes, I ask the students to write down what the issue is, as that often helps.
And I can often immediately provide some help.
The meeting is not needed.

[SPEAKER_00]
What is needed to be a PhD supervisor?

[SPEAKER_01]
All institutions have some rules for that, and strong knowledge in the field is needed, of course, I say, that's my message.
Accept being a supervisor only if you have strong research competence in the relevant field of study.
How can you have supervision authority if this is not the case?

[SPEAKER_00]
So you as a supervisor should be strongly involved in planning the research topic?

[SPEAKER_01]
Well, there are cases where candidates have a clearly defined project they like to do the research on, and then you cannot influence the topic so much.
it is then you have to make a judgment.
Have you a sufficient strong competence in the field so that you can serve as a supervisor for the candidate on that topic?
If the position topic is more open, you should, however, be strongly involved in the planning of the research problem.
You should indicate areas that is relevant study topics.

[SPEAKER_00]
It is common that students, when applying the PhD position, are asked to sketch a position, a problem formulation, an early project plan.
Is that a meaningful practice, you think?

[SPEAKER_01]
I have been very skeptical to such project plans when applying for a PhD position.
How can a student before the research training start be able to identify an important gap in the research literature and discuss how to fill that gap?
Only some few candidates can do something like that.
So, in general, my message is this.
Forget the idea that the PhD student is to present a crude research plan when applying for the PhD position.
The students are not able to make such a plan in most cases that have substance.
And secondly, it could reduce the supervisor's influence on the topic choice.

[SPEAKER_00]
And that is important because success for the PhD candidate is also depending on that of the supervisor and that supervisor is motivated and competent on the topic chosen.

[SPEAKER_01]
Exactly.
It's essential that both the candidate and the supervisor are highly motivated for the thesis topic.
And for the supervisor, there is also the important aspect of having strong confidence in the topic actually being researchable,
that allows for studies of several years leading to a PhD degree.
The supervisor has the responsibility that the PhD work leads to a PhD.
And that means the supervisor must be in charge of the planning process.

[SPEAKER_00]
So you are saying that you as a supervisor should be the main contributor to the development of the research plan, as only you are able to identify what is a relevant research gap and how to fill it?

[SPEAKER_01]
Yes, that is my general view on this.

[SPEAKER_00]
Many students struggle for various reasons, we know, not only because of scientific reasons.
How do you deal with this type of issues?

[SPEAKER_01]
There are institutional guidelines for dealing with such problems.
I just like to point to the need for the supervisors to monitor the process carefully and make the necessary measures quickly when there are signals about something not working well.

[SPEAKER_00]
So being a supervisor is not only about science and papers.

[SPEAKER_01]
No, it is much closer relationship than that normally.

And for the supervisor, I think having focus on motivational aspects are very important.
When the students struggle with a paper or they are faced with feedback from reviewers on a paper expressing pages of things that need to be improved, the students need strong backing.

[SPEAKER_00]
What do you say to them?

[SPEAKER_01]
It is a lot about explaining that what the students experience is normal.
Others have had similar experiences and struggled at some stage, but they did it and so are you.
Trust the process as we have discussed earlier.

[SPEAKER_00]
Working with other PhD students could be useful for this purpose.

[SPEAKER_01]
Yes, absolutely.
And that I try to do whenever possible.
Then the students can meet and discuss the work more or less continuously.
And it can be very effective as they can learn from each other.

[SPEAKER_00]
It is also common now to have several supervisors.
What's your experience with this practice?

[SPEAKER_01]
Overall, it is good, I would say, as long as it is crystal clear who is the main supervisor and this person is the one that oversees the whole process and take the full responsibility.
It is a way of teaching younger scholars how to conduct the supervision role.
It's a fine start as a supervisor to be a co-supervisor and help the student writing one paper, maybe, and the senior supervisor, the main supervisor, guides you as the new one.

[SPEAKER_00]
Presentations at scientific conferences is also important for a PhD student.
And I know you work hard preparing the students for their talks.

[SPEAKER_01]
Yes.
Presentations at conference is important for a researcher and scientist.
It is the way we communicate in science and have discussions about interesting topics.
And yes, to make a presentation is not something one does the day before the conference.
A good rule, I would say, is to start at least one month before the conference with the planning.

[SPEAKER_00]
And you work with the students in the same way as for the preparing writing?

[SPEAKER_01]
Yes, iterations and interactions.
And the slides we use as the instruments for developing a clear logic and structure.

[SPEAKER_00]
What are the biggest challenges in the process?

[SPEAKER_01]
There are several.
One is the tendency to not having a clear message.
Another, the tendencies of trying to be all-inclusive.
And third, the tendencies of making things too complicated.

[SPEAKER_00]
Can you say something more about these challenges?

[SPEAKER_01]
Yes, you are to present a work based on a paper you have written about the topic.
Mistake number one, you make your presentation following the same structure as the paper.
The result is that the talk easily becomes boring.
Mistake number two.
You try to cover everything, also having the likely results being boring.
Mistake number three.
You go into a lot of details concerning the method.
The audience do not follow you as things are too complicated and technical.
Mistake number four.
You believe the audience expects you to be advanced, super advanced and sophisticated, so you focus on the technicalities and details.
Of course, one can also do the opposite mistake, make things too banal and simple, treating the audience like students, but that is not so common, not among PhD students for sure.

[SPEAKER_00]
These are some mistakes, but what are your constructive guidance?

[SPEAKER_01]
I would say this follows from the mistakes.
Number one, forget the structure of the paper.
Think from scratch how you best can make the presentation interesting for the audience.
Two, focus on the most interesting and important parts and leave things out.
Three, focus on motivation for the work, the big picture, and drop the details.
Four, focus on ideas.
It's possible to be simple, but still scientifically advanced.

[SPEAKER_00]

How do you do this?
Can you explain things in a simple but still scientifically advanced way?

[SPEAKER_01]
Yes, that's a major challenge and students need a supervisor's help.
It is a lot about reflections, to see the work and paper from outside and explain the basic ideas, what is going on there, why and what it gives, relating it also to earlier and existing works and results.

[SPEAKER_00]
Can you give a concrete example?

[SPEAKER_01]
Yeah, say that the student is to present a work on an improved method for risk assessment which incorporates human organizational factors.
A narrower presentation would be to explain this method with its main elements.
A more reflective presentation would focus on answering questions like, what are the main reasons we would like to include such factors in risk assessment?
what are the main challenges trying to include them?
What are the basic ideas when including them?
And what are the main ideas of your work?
What does it add to existing work?
What is new?
And more.
Answering such questions using not too technical language requires a strong knowledge of the issues and ability to see the big picture and a willingness and ability to focus on the ideas rather than all the details.

[SPEAKER_00]
And that is a skill.

[SPEAKER_01]
Yes, and the motivation for all this work with the student is to teach the students how to do this.
They would not normally get it the first time, but they will improve over time.
It's about learning to be a researcher and scientist.

[SPEAKER_00]
It is common to stay abroad, typically at one university, some months as a part of the PhD program.
What do you think about this practice?

[SPEAKER_01]
I have had many PhD students over the years making such a stay at a university abroad, I would say with somewhat mixed results.
It works well when there is a strong connection to the other host institution.
There are scientists there that you as a supervisor work with.
But if that's not the case, I think it's better to drop it and see the conferences as the place where you meet other researchers.

[SPEAKER_00]

It is often argued that such a stay is important for the students to experience different perspectives and schools of thinking.
What do you say about that argument?

[SPEAKER_01]
I struggle with it, as most students would be confused and disturbed by having to deal with several perhaps contradicting perspectives.
And how can a supervisor then take full responsibility for the candidate's work when part of it is in conflict with what this supervisor thinks is current scientific knowledge?

[SPEAKER_00]
Finally, if you are to give one advice to a PhD student, what would that be?

[SPEAKER_01]
It would be to enjoy the small achievements and have good working habits with small deliveries every day before lunch.

[SPEAKER_00]
And advice to the supervisors?

[SPEAKER_01]
Lead the process, be willing to work hard to help the student on everything with a special focus on motivation and support.
Do not compromise on scientific quality.

[SPEAKER_00]
With these words, we end this podcast.
Thanks, Terje, for these valuable insights.

[SPEAKER_01]
Thank you, Marja.