Respondent 11 Interview

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**SUMMARY KEYWORDS**

students, plant, practicals, lecturers, science, year, module, terms, important, question, concepts, lectures, change, field, teaching, first year students, degrees, competency, curriculum, problem

**SPEAKERS**

Respondent 11 , Megan Roberts

**Megan Roberts 00:01**

Okay, can you hear me okay? Through this mask?

**Respondent 11 00:03**

Yes 100% where are you sitting? In Angeliques office?

**Megan Roberts 00:08**

No, I'm in my office, Angelique is in her office.

**Respondent 11 00:11**

Is it? Okay.

**Megan Roberts 00:14**

Okay, so I'm just going to ask you a couple of questions and we can have a bit of a discussion about it, and then that'll be that.

**Respondent 11 00:20**

Okay.

**Megan Roberts 00:22**

Okay. Um, can you please state your field of research or expertise?

**Respondent 11 00:29**

Okay, my, my primary field of research is Plant Pathology and medicinal plant sciences I have actually got two fields and they interlinked, but so the So, but in terms of, of research expertise, I focus mainly on the use of natural products of plants, plant extracts, as potential biocontrol agents against plant pathogens. Okay.

**Megan Roberts 01:03**

So, my first question is, is plant blindness or a lack of interest in plants a problem in your institution?

**Respondent 11 01:14**

Yes.

**Megan Roberts 01:16**

Okay. Why do you say that?

**Respondent 11 01:18**

Okay. I think the, the problem is not really that much in our senior modules, you know, if you look at third years, and then going on to honors and postgraduate, because I think by that stage, the students have really had a chance to engage with plant science, and then also especially see post grads, they've made up their minds in terms of what direction they want to go to, I think a major problem lies with lies with the first year students and the second year students, because if you take a look at the enrollment of first years coming into university, and looking at what degree they opt to register for BSc plant science, is numbers are very low. So those students who want, who have chosen BSc plant science, directly from school as a degree that they would like to study is very low, I think it's like four or five students per year. And I think, quite a lot of that comes in from school. So, I think it's this the learners don't get much exposure in terms of plants at school level if we take a look at the school curriculum, but also but that's not the only thing I think it's also got to do with who teaches them and how they were taught. And typically, if I think back from my school guys, and also from speaking to students, the focus is always usually on, on people and on animals. And the plants are almost like on the sideline. And I think their emphasis on the importance of plants is largely neglected at school level, and at university, I think once students do get exposed to plants themselves plant science, look they don’t do much in the first semester of the first years only MLB, but then it focuses on metabolism, and then they only get exposed really to plants in the in the second semester. And there sometimes we do when a few students over based on you know what we do so and usually those already, students who have an interest in plant science, some of them we do get we get through if I can use the word convert, and based on what we teach, and how we teach it in first year, and then we do get students that then change it to plant science. But I think the major problem is their exposure to plant science and the interesting world and fascinating worlds of plants. That is not a large focus. Currently, although we are working on it, I mean, that's why we recurriculating the BOT 161 for next year. And with a focus on how plants actually, or are used in everyday life of a person, you know, that people can actually see how important the plants are. So yes, just to sum it up, plant blindness is a problem. And like I said, this is mainly in the junior, you know, in the first year, second year, the students coming in and then going into first year and then the second year.

**Megan Roberts 04:36**

Okay, so my next question you have sort of already answered and that is do you have issues getting students to enroll for your plant science degrees?

**Respondent 11 04:49**

Yes, yeah. So, as I've mentioned, you know, directly from school level, we do have issues and that's quite a bit out of our hands because we don't really have contact with the learners. The only contact really is through the marketing department, or the marketing office from the faculty. So, I know that they do put a lot of effort into marketing the degrees, they typically have low numbers. So, I know that they've started a new campaign this year where they're working on a new type of flyer in terms of advertising. But I think one thing that a person can maybe look at is, you know, gets, if it's always even if it’s possible, it's not always possible to actually have postgraduate students to visit schools, because the schools always visited by the marketing personnel, but I mean, they're not specialists in the field, to have postgraduate students to actually speak to these students, or to the learners and tell them more about plant science. And then, like I said, the other problem is then once they're at university, is to actually to get them excited about plant science. And that is our role as lecturers in the department that we and in the modules that we teach, is to really infuse the students and I think it's there it become largely the lecturers’ responsibility to do that.

**Megan Roberts 06:19**

Okay,

**Respondent 11 06:19**

I hope that I answered the question.

**Megan Roberts 06:21**

Yes, you did. Okay, my next question, do you think a first-year plant science module should have a narrow approach covering a few concepts in detail, or a broad approach touching on multiple concepts within the field?

**Respondent 11 06:41**

Yeah, that's a difficult question. Because plant science is so diverse. There are so many aspects, you know, you go from physiology, to ecology to biodiversity. And then you can bring in other fields like biotechnology and all of that. So, Plant Sciences, really, and it's also a discipline that shouldn't stand alone, it actually should be incorporated in other biological sciences modules. Like if we think of microbiology, you know, when they talk about bacteria and fungi, they should bring in the impact on plants, you know, if they do genetics, that should be also brought in there. So, I think our approach in my goals, currently is very specific. I mean, all the biological sciences and we largely focus on that discipline on its own, but once you actually sit down and see how plants but not only plants, animals can actually also be incorporated in other modules as well, but the same in plant science, so just coming back to if, if a narrow approach or broad, I actually believe that in first year, they should be exposed, at least to the fundamental concepts of the descent, the different disciplines in plant science, so they should know the basics of ecology, they should know in terms of diversity that we don't just get flowering plants, you get your gymnosperms, you get mosses and you get all of that, and then some Physiology also the basics of water, transport, photosynthesis and all of those things are covered. But then when you start talking about more specialized fields like medicinal plant science and plant pathology, you know, that that can be brought in, in a first-year module, but should actually not be the entirely the focus of the first-year module, that can actually be done more in second year. So, you can introduce it but in different ways, you know, doesn't have to be a theme on medicinal plant sciences, but you can bring in it through you know, if you talk about morphology and anatomy and or diversity and you can bring in how those basic fields also linked to concepts of medicinal plant sciences plants that can be used to make medicines and things like that. And also, the biotechnology is, like I said, it's difficult, because, I mean, on the one hand, you want to expose them to the concepts, but time is the limiting factor. But I, to answer shortly, I would rather go for a broader understanding of the of the fundamental concepts of plant science of botany the principles and not be too narrow in first year.

**Megan Roberts 09:33**

Do you think that using this approach could potentially help with increasing interest?

**Respondent 11 09:39**

Um, yes and no. Because so, if you think of, you know, teaching the students the basic concepts and the principles that can be a little bit boring because the sorts of stuff That they can read in textbooks and it’s also usually the things that are taught at school, it's important, I mean, so that can still be there. But it's important to bring in relevance and examples of how we so when you touch on these different aspects on the broader concepts how they link into plants used in your daily life. So, for example, if you talk about you know, one of the very important concepts in for me for a student to understand is plant growth in terms of secondaries, secondary growth, thickening, you know, how do you. that tree that you see outside that they understand that the wood that you see outside of a tree of that massive tree is actually transport tissue that has been hardened, and it's actually died off and there for strengthening, so to link it to what they see outside because, and I mean, I used it to tell students, you're writing on a wooden desk, where does that would come from, you know, so that you can so that they can see the link between what they, you know, concept of secondary growth, for example, and the product at the end of the day, and I think that makes it more relevant to them. And then it also makes it more interesting for them, because then they can see Oh, okay, this is actually what I'm writing on, which of which they've never thought of, is actually where does wood come from. And so, you can really make it interesting, even though you do this fun to make fundamental concepts, and you can really make it interesting and by bringing in relevant examples, and everyday use of plants.

**Megan Roberts 11:49**

Right, okay. My next question, and do you have the interview guideline open in front of you? Oh, no, it's okay. I can post the question in the chat. That's fine. Okay.

**Respondent 11 12:05**

And I can quickly get it, then it will be easy. I just want to quickly get to my email. Okay. You sent it when you sent the initial email?

**Megan Roberts 12:32**

Yeah.

**Respondent 11 12:38**

No that was the invitation. Give me a second. Interview guidelines. Yeah. Okay. I've got it. Yeah. Yes. Okay.

**Megan Roberts 13:11**

Okay. Um, okay, so doing question four now. So, which of the following concepts do you think should be incorporated into a first-year plant science module?

**Respondent 11 13:27**

Okay, let me just take a look there... I think all of them. The one I just want to, but maybe it’s included in something else there is reproduction. Does that fall under systems?

**Megan Roberts 13:49**

Yes.

**Respondent 11 13:50**

Okay.

**Megan Roberts 13:56**

I think it actually falls more under structure and function, reproduction.

**Respondent 11 13:59**

Okay structure and function. Okay. What do you mean by information flow exchange and storage?

**Megan Roberts 14:04**

So that's more along the lines of how the cells work, and how information is passed through cells, a bit of genetics?

**Respondent 11 14:14**

I guess it's more of the cell biology.

**Megan Roberts 14:17**

Yeah.

**Respondent 11 14:18**

Okay. Okay, then evolution is there, pathways and transformation of energy and matters. So that's a process like photosynthesis, I assume. Okay, which is obviously essential. I think all of them that you have put there are I think the only one that might be, that I would put in there is diversity. And, in other words, that, like I said, one of the things that I find, and we can't, and I know they do the 3rd year level, but I think from first year level, I think a student needs to understand that you get a diverse range of different plants so that they understand that a moss is a plant, a fern is a plant and the gymnosperms are plants, what are the major differences between those, in turn that also falls under the evolution part, you know, as plants have, you know, changed from what you call a sporophyte to a gametophyte generation and all of that type of stuff. So, diversity, I would then add in there as well.

**Megan Roberts 15:21**

Okay, if you had to pick two of those to be your most important two which would you pick?

**Respondent 11 15:29**

Hmm. I would think, obviously, the structure and the function. And I would also then, then I would actually say diversity. Okay. If I had to pick those as but that's now, I'm coming from a perspective, assuming that, must I assume prior knowledge?

**Megan Roberts 15:59**

You can assume prior knowledge if you want to, because they would have done MLB.

**Respondent 11 16:03**

Yes, yeah. Because that's why I said because things like, you know, you know, if they've done a course, like molecular and cell biology, they would have done in detail, cellular structure, cell structure and function. And also, things like metabolism, photosynthesis, and those type of processes. So, but I think when they move on to the BOT 161 module or first year, plant science module then definitely elaborate on structure and function. So, and then the diversity part is for me, very important. Okay. And that will also then bring in the evolution part.

**Megan Roberts 16:43**

Yeah.

**Respondent 11 16:44**

I just want to ask the under the systems, under E, what do you what do you...?

**Megan Roberts 16:48**

It's ecology, mostly ecology.

**Respondent 11 16:53**

Okay. They all important for but those ones are the most important.

**Megan Roberts 16:59**

Is the one that you think should maybe not be put into the first-year plant science module?

**Respondent 11 17:08**

Well, in terms of what the students have, in terms of prior knowledge, if they've done MLB, then I would not put in pathway pathways and transformations of energy and matter, I wouldn't put in that. Okay, because they would have done that. And then maybe the information flow exchanges and storage as well. Yeah.

**Megan Roberts 17:29**

Okay. Next question. Is which of the following competencies Do you think should be incorporated into a first-year plant science module?

**Respondent 11 17:41**

Okay, let's see the process of science. So, I assume that's things like the scientific method? Yeah, yeah. Okay, definitely. interdisciplinary nature of science? Yes, I think it's important, because I don't, students tend to think in boxes. They think, if we do plant science you do plant science, and there's no relation to genetics, or to microbiology, integration of science and society, I think for especially in a module like this, this is extremely important, because that makes it more interesting and more relevant. That the students can understand how, in this case, plant science is related to everything that we do and what's in society. Communication. Yes, communication, collaboration are two obviously competencies that I, that are very important. But I don't always ...thinking of what you can do. I mean, you can't put everything into a first-year module. But maybe communication and collaboration. Maybe not as important as the other ones. Okay. And then understand and interpret data that goes to me Actually, hand in hand with the process of science and the scientific method and carrying out investigation and to understand what you get them and to interpret the data there's more of a practical skill. And then the quantitative competency. What do you I just want to understand to give clarity exactly what you mean, on the quantitative competency?

**Megan Roberts 19:35**

It's similar to understanding and interpreting data. So being able to work with data being able to read graphs interpret graphs, produce graphs.

**Respondent 11 19:42**

Okay, no, yeah, no, that's also for me important, they actually all important, but I mean, if I have to pick out of those that I would say the first three and then the last two, okay. Because the communication and the collaboration, I mean, obviously the in terms of Communication. Are you talking about in terms? What do you mean in terms of communication?

**Megan Roberts 20:06**

it's written and oral communication. So be able to write reports, being able to ... yeah.

**Respondent 11 20:13**

Okay. Yeah. Well, if it comes to communication with written, I think, obviously, I mean, that that's important that students know how to write, how to formulate an answer in a logical manner. But given the restrictions and these constraints, because given typically at our university, the large number of students it’s very difficult to really work on that effectively, if we had more hands and more time, then one can definitely work on that I would think on in terms of oral communication skills, maybe not at first year level, maybe move that up to second year with third level and collaboration is that in terms of students working with each other? Yeah, yeah. Once again, restricted to the number of students in the class. But that's something that you can bring in into your lectures by incorporating, you know, peer learning, there's different ways to do that. So yeah, so, guys, it’s difficult, I would actually want to see them all in there, if I'm allowed to say that. But the ones that I've mentioned previously, I think are the most important.

**Megan Roberts 21:34**

If you had to pick a top two?

**Respondent 11 21:35**

Top two? You putting me in a box now. I think for me, the understanding and interpreting of Data and the quantitative competency, if I can group those two together, I think it's really important. I think that's a basic not just for plant science, but for any science module, its students must be able to understand what they're reading and if they do experiment, understand what they've got, and what does it mean, it doesn't matter if it's positive or negative result. And then the process of science is also very important there, the, yeah. those with, I would then say my top two.

**Megan Roberts 21:47**

Okay...And is there one that...

**Respondent 11 22:20**

...Seeing that you have to put me in a box. I think those two I would then say, are the important ones, because the other ones, those are things that can come in still. And I think those two are the important ones. Yeah.

**Megan Roberts 22:45**

Okay. Yeah. And one that would, you think should not be put in?

**Respondent 11 22:58**

I would say the collaboration.

**Megan Roberts 23:04**

Okay.

**Respondent 11 23:06**

And there's just so... because, you know, if I to rank these ones collaboration will just be not saying that it’s not important it would just be the lowest one on my list.

**Megan Roberts 23:19**

Then, I think I already know the answer to my next question. But before you received my email, have you ever heard about vision change?

**Respondent 11 23:29**

Yes, I have heard about it, because we had a workshop about it. Last year, I think it was last year. I just can't remember all the details behind it.

**Megan Roberts 23:42**

Yeah. Do you think that it's a good way to look at or a good tool to use it looking at restructuring the course?

**Respondent 11 23:51**

Yes. No, I think so. I think I think so. Yeah.

**Megan Roberts 23:56**

Okay. Next question. What do you think the barriers to changing a first-year curriculum will be?

**Respondent 11 24:05**

The barriers. The major thing for me is class size. That is a major restriction, because you can really do a lot. But because of the number of students and I've experienced this firsthand, see, because I taught BOT 161 for number of years, and try to introduce things that made students more aware and to make it a bit more relevant for them. But I had challenges because of the number of students and going onto that because of the number of students it impacts on largely on the administrative processes on assessments. And, and then also, I mean, this thing's like a timetable. You know, there's just you don't get enough time to spend with the students. You know, when I was a student, we had four lectures of plant science a week, and a new practical every week. So, you and okay, the class sizes were about 200 students, that’s when I was a first-year student, and it was intense. And then you can do all those, you know, if you go look at back to all those, what should be incorporated, and we did all of that. All of those, those concepts. And we did it in detail. And I still also remember our lecturer when he marked the tests, because it was fewer, although 200 is still a lot, but he marked every single test and he wrote, he gave feedback and comments on your paper. So, he looked at writing skills, how you answer and all of that. So, you need the time, you need to have a lecturer that, who's I won’t say, well, dedicated, obviously, but also, who has sufficient time and energy to spend on the module. And once again, it brings it to the class number, the class size. And you know, then over the years it changed when they said that all students have to do all their biological sciences modules in the first year, the way that, you did it as well. And then effectively, lectures were reduced to two lectures a week and pracs were reduced to going from 12 to six. So, what happened is you got a cramming of content, which is not good. And secondly, we lost time, especially practicals, to work on skills. And so, but that all relates then to class size. So that's for me the major barrier, when it comes to changing the first-year curriculum. because ideally, if we had more time and more lectures more practicals, we can actually do much more, we don't have that. And the other barrier is that, but that is something that one can still work with is obviously the students the issue of plant blindness, the student’s perception about plants and to change that. And that's not an easy thing to do. Especially working in an environment that we have now where all students need to all have to do BOT 161. So, you don't have students, taking the module just because they're interested in it, they have to do it. And the reasoning behind that change many years ago was that students or learner coming from school, you know, they come in, and they want to study BSc zoology or BSc plant science based on their perception of what the field is about. And but obviously, they don't have the understanding behind that, what it's all really about. The idea was that you expose all these students to microbiology, plant science, zoology and genetics, that the student can make a more informed choice. Moving on to second year, so. So typically, at the end of the first year, we do get students change degrees, based on what they've gone through in the first year. So that was the reason for that. And I think that actually helped a little bit to get students to be exposed to what they must do. And we exposed to where their interests lie. But I think the plant blindness the issue of plant blindness is still there, with the learners coming in, so that is for me a barrier is to change that perception of what learners think about plants. Yeah, yeah, with that is, like I said, you, part of that barrier is, you're working with a lot of students who don't want to be there.

**Megan Roberts 28:47**

Yeah,

**Respondent 11 28:48**

They doing it because they have to do it. And to change that is a is a major thing.

**Megan Roberts 28:57**

Do you have any suggestions as to how we might be able to change that?

**Respondent 11 29:05**

Well, if we look on my first barrier, what I said about class size, will be fantastic if we can have less student numbers, but that's not going to happen. So, one has to work with what we have in terms of a restricted timetable in terms of what we do. And what we can do in that limited time. So, one really is to think very carefully about what concepts you want the students to know. But then also at the same time to make it relevant and interesting and linked to everyday life, the society. So, your curriculum, development has to obviously take into account that was a barrier in terms of class size and all of that. So, I think Another discussion on its own of how you fit, you fit your curriculum to meet the needs of the students in that type of environment. And then, like I said, in terms of the students who don't really have interest in plant science, we're doing the module because they have to, they, that comes in, obviously, a curriculum development is important in terms of how you can make it more relevant and more interesting to the student, but then it's also got to do with who's teaching the module? Yeah, you need to know the lecture is really dedicated, who's enthusiastic. And has and, and really, has a good... who engages with the students and, and all of that. So. And that is where I think your practicals are very important, because that's the lectures in as a huge class but your practicals are actually where a person gets to really interact with the students. I remember from years ago when I taught BOT 161 that, although it's a lot of time that you put in as long as sessions that you have to teach with, those are the sessions where I would walk around through the benches, and speak to the students and tell them and ask them what you're looking at under the microscope. And then, you know, they only have a discussion with them. And that's actually, um, that engagement. So, I would, I would say that one of the suggestions is really to improve engagement in interaction with students. So currently, you know, we have these large classes, we have demonstrators who demi, to assist with the practicals I think your lecture has to be should be in that class. Because obviously, he's the person running the practical but also gives the lecturer time to engage with the students. And I think students appreciate that as well. That the student has... shows interest in the students, and your Demi’s also need to be trained better in terms of the content and also what's expected from them. I'm not saying that all the demies currently are not doing a good job. But I think there has to be specific guidelines for your demonstrators to really help facilitate practicals and also to make them, your Demi’s should also be enthusiastic so that enthusiasm can rub off on the students as well. Okay, I think hopefully, that answers the question. Yeah.

**Megan Roberts 32:35**

My next question is, what kind of resistance Do you foresee would lecturers have, if this change is being introduced?

**Respondent 11 32:44**

Well, once again it’s got to do with the type of lecture. So, there are different, I mean, you've got if you can look at your lecturers, you get the lecturers who are really teachers at heart, they are really there to serve the students. And they want to engage they have interest, they enthusiastic, and, and that sort of problem. I mean, those lectures are the ones that you want favorite, to be involved with the first-year module, and also to embrace these changes, and I think you'll have much resistance with them. But you're going other lecturers who think that their sole responsibility as a university to do research, but unfortunately, well, not unfortunately, it's a fact when you are appointed at a university as a lecturer, you are appointed in a dual role as a teacher and lecturer as well as a researcher. So, you should have those, I mean, a lecturer should have the interest and dedication, while they should show the interest and the dedication that the students need in terms of teaching. There will be lectures that will resist this type of change, because they are very used to the old habits, in terms of teaching. And, and you know, that's, I mean that's typical, you know, people don't always want to change because doing something from year into year out is easier because it doesn't require extra work, which doesn't demand that much time. But I think everyone has to face the reality that science is changing discipline, is dynamic. You can't do things the same way or teach the same content from year into year out because things do change. But also, you have to keep up to you have to change your teaching styles and things like that. Due to the changing environment, the way you taught 20 years ago, and what you're teaching now is not going to be the same. So, there will be resistance in that type of thing. But I think the way a person approaches that and how you deal with those lecturers, if I can put it like that, is it just has to be done in the correct manner?

**Megan Roberts 35:13**

What would you say the correct manner is?

**Respondent 11 35:16**

Well, that's my job. So, my job as teaching and learning chair for the department is, and I had to deal with this this year, because we started with the BOT 161, next year is, you know, you use you speak to the lecturers and you have a conversation, you don't go and say, this is what you're going to do, you're going to change. And this is what's expected from you, it doesn't work like that. No one likes to be given instructions, it's got to do with you have a conversation. For example, you can use documents like vision and change that we've done, and explain to them, you know, the benefits of this, and then, of course, provide the necessary support. And that the people see that the lectures don't see that they're going to be thrown in, and they have to do this, but they are support and they can also have input on how they can, or they can also be part of the change in the curriculum, and also the way things will be done.

**Megan Roberts 36:19**

Okay, what could potentially be a good selling angle for us to motivate people to be willing to take part in the change?

**Respondent 11 36:32**

I'm not a marketer. Good selling angle? Well, I think one of the big motivations, and I think one of the I mean, as I said, plant blindness is a is a problem. And I think all the lecturers do face that in some or other way, maybe not everyone, but I think just telling the other lecturers that, you know, by doing this, and by changing and the curriculum and, and adapting it is, at the end of the day going to be benefit for the students, because I will have, hopefully a better perception about plants and try to take away this issue of plant blindness. And in the end, it's going to also then be advantage for the other lecturers, because investment that we put into it in the first year, is going to rub off in the second year in the third year in the Honors in terms of the students will hopefully be more interested, they might be more there will be more engagement. So maybe if you're not involved with first is in the first year, and you're not going to be part of that module. But in the end of the day, what we do in the first year whoever's involved there is going to impact on what happens in the in the later years. And then hopefully, we will have a real cohort of students who really have shown interest in the field of plant science. Do you think that's a good selling point?

**Megan Roberts 38:01**

I think so. My final question to you is, how important do you think hands on practical sessions are for a first-year plant science course?

**Respondent 11 38:14**

Okay, I think I've answered that, but I think it is critical. I've mentioned to you the problems that we've had with all the changes and the problems associated with that, for example, one of the major things is what's bothering me, is that currently, BOT 161 students get exposed once to a microscope and look at a root, a stem and a leaf under the microscope. There's not there's not enough time devoted to that. There's not enough expertise always in that practical room in terms of the Demi's being trained to actually explain to the students what they are looking at, I think many times students just turn on the microscope to put a slide in. And if you don't go in, ask them what you're looking at. I think many of them haven't seen anything, they're just seeing a light shining through. So, and I think in any scientific field, practical experience is essential. theory is there and that's fine. But I think in many cases, even the theory that you're doing class can actually be brought into the practicals and be taught in a in a better manner. For example, if we think of things like transport of water, you know, to explain to you could do that in a practical setting with actually to experiment of how water flows through a plant or concepts like osmosis or anything like that way. And I think students learn more by doing something hands on than just sitting in listening. And other examples example is things like metamorphic... I mean, you also recall from first year you learn about metamorphic roots and stems and leaves. So yeah, in class you can just show photos, this is an example of a buttress root or a prop root. But in a practical setting, or just taking them out into the garden to see how these examples look like in nature, I think is much more worth than just sitting in class and looking at a photograph of that, our practicals. So, our practical sessions currently on, according to me, are not up to standard. And I think, yes, on the one hand is due to restrictions because of class size, we don't have enough time to engage. But they shouldn't be used as excuse we can utilize those full three hours more effectively. I think over the years has just become the same thing happening, and nothing new coming in. And you can actually do much more even if you have very limited time. But it's essential I, you know, if I'm not even just talking about first year, you know, if you go to second year, and third year practicals is where you learned. And I actually feel that somewhere either in your first year, there has to be a basic laboratory course, for first year students, which we don't have time for at the moment. But I mean, when the students get into the second year, many of them don't know the difference between a measuring cylinder and a beaker. And these are things that a person know you think you know, that you that the students do know that because they've done that at school. But we must always be remembered that not all schools are on the same level. And some, some schools might have done very intensive practicals. And now, they actually know, how a microscope works and all the different glassware and apparatus in a typical lab, the other schools have had no exposure, and you need to get it all those students onto the correct level on the same level in your first year. So, I actually feel a basic lab technique courts for first year students, before they even go into any discipline is critical. And then obviously, you're going to different modules and try incorporate as much practical skills that you can. Because after all, that is what the employers want.

**Megan Roberts 42:26**

Yes.

**Respondent 11 42:27**

And if you go on to honors and to masters and postgraduate studies, we want students to come in with necessary skills, but we are sitting our situation in honors that even the basic skills are not there. And you spend time on basic skills, when you shouldn't actually be doing that. And I don't say that's the student's fault. I think it's the way and it’s not only plant science, but it's all the biological sciences, we are not up to scratch with what we're doing in the practicals, the tutorials online, things like that, they good, it’s nice to watch a video of how someone does something. But unless you sit and you do it, and then you will see, then then the student can see Whoa, okay, this works. And why are we doing this? By just showing a video of experiment? You could do it as introduction, give them give them a sense of what they going to be doing what you need to have hands on. That's a very long answer. But I'm very passionate about that.

**Megan Roberts 43:32**

Do you think it would be beneficial to potentially make our three-year degrees four-year degrees? And start first year off with a very basic general, this is how science works. This is how life works?

**Respondent 11 43:49**

That's actually a very interesting question, because a number of years ago, but somewhere it just stopped there we actually the DHCPT, no the DHCP...No, the Council of higher education actually wrote a massive document. I've actually got it in my office I don’t know if Angelique has also gone it, where they proposed. They did a whole big study and they were a bunch of education specialists who actually wrote a document for the Council of higher education with a proposed that all three-year degrees become four-year degrees, because of first of all the unpreparedness of students coming in from school, just to bridge that gap, almost like an extended program, but not exactly the same as extended program. And also, then it gives more time to spend on critical skills. If you and the argument behind that was this but they, will they have looked at throughput rates. And I think the average time of a three year, of students doing a three-year degree was something like 4.3 years. So, students were in any case not finishing within the three years due to a number of reasons. And I think if we go do a very in-depth study, I think you will still be seeing the same thing that I actually do support them. I and I said that years ago when they when they had this investigation, and but that's when I was also at Mamalodi campuses director of extended program. And I saw the value of the extended program, you know, of how those students coming through the, the extended programs have actually excelled and, and have done better not all of them, obviously. But I've got many examples of students that are currently I finished the PhDs they've gone through, where they never would have had the opportunity to study a degree. But in short, I would actually consider or well let’s say rather I’d support such a proposal where you have students do it over four years and not three years. Because what you can even do as well, like a BSc Agric, you can actually incorporate, part if your honors in that four-year degree? So, you can in your third, your fourth year, you can actually students do a mini research project. So, and because I mean, if you go look internationally, I don’t think there are honors degrees, I think, they go directly to masters. Yeah. And if I look at the BSc Agric degrees, the way that's formulated, it's not perfect. But I think the way they've done it there is actually also a model to work on.

**Megan Roberts 46:35**

Thank you. And that's all from my side. In terms of my questions. Do you have anything you'd like to add? Or any questions for me?

**Respondent 11 46:44**

No, I think I'm happy. I think I just spoke a lot. I hope I didn’t sound too deurmekaar. Answering different questions at different times, and all of that. But I think yeah, this is this is going to be really interesting, really nice study that you're doing. And it will be very interesting to see what that what the outcome of this is. Yeah. How many lectures are you? approaching?

**Megan Roberts 47:13**

We're looking at 30. So, 20 from talks and then 10 from outside.

**Respondent 11 47:22**

Okay,

**Respondent 11 47:22**

So, what is your, you know, for you, your dissertation for your… what is your, your research question?

**Megan Roberts 47:30**

And I've got two research questions. The one is regarding the broad or narrow approach. So, which is the preferred way of looking at things? And then the other, I've actually got three the other two have in regarding the concepts. So, the general consensus of the concepts and others is the competencies.

**Respondent 11 47:57**

Okay. This is really interesting, but I think it was a, it's a difficult study.

**Megan Roberts 48:05**

Yes, I think, I think once I start analyzing everything, I think I'm going to see just how difficult it is.

**Respondent 11 48:13**

Especially I've been amongst lecturers, everyone's going to have a different type of opinions and all of that, and the views. And obviously, not everyone agrees, you know, like I say, you know, I feel more of a broad foundation is essential in first year. But then, you know, others might argue, and they'll say, but, you know, in terms, especially in terms of plant blindness, to address that, you know, one should rather bring in more, you know, focus on more relevant and hot topics, which is important. And I fully agree with that, because that was what interests the students. But my big problem that I have is, is that the fundamental basics of plant science is not there. And you have to have a good foundation that you need to build on.

**Megan Roberts 49:09**

Yeah, and

**Respondent 11 49:10**

I think with this view, but 161, there's going to start next year, I think it is going to partly address that problem. But it's a challenge. It's a challenge. And I think it'll be interesting to when you're speaking to other lecturers from other universities. It will actually be very interesting to see what they take us on this UK also experiencing the same type of problems. In terms of, you know, what we do? I think, you know, we are one of the biggest universities, I think the other ones will be a bit smaller. Do you have exalted idea? Have you contacted lecturers from the smaller universities like Rhodes? Yeah,

**Megan Roberts** 49:46

I have.

**Respondent 11 49:48**

Yeah, that'd be fantastic to actually get the view. Now, very interesting. It was nice. It was fun to talk about these things.

**Megan Roberts 49:58**

Okay, thank you very much.