Respondent 5 Interview

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**SUMMARY KEYWORDS**

plant, students, important, science, year, question, problem, people, structure, concepts, lecturers, teach, easy, basics, big, proposed, lectures, specific, barrier, suggestions

**SPEAKERS**

Respondent 5, Megan Roberts

**Megan Roberts 00:03**

Can you please just state your area of research or expertise?

**Respondent 5 00:07**

Okay, so um, I my research group focuses on abiotic factors that affect plant development and growth, I guess is the basic gist of what I do.

**Megan Roberts 00:20**

Thank you. My first question to you is, is plant blindness or lack of interest in plants a problem in your institution?

**Respondent 5 00:31**

In my institution? I would say broadly speaking, probably yes. Because it's a problem in general in in South Africa, I think. I think people don't really think about plants. or what plants means to their lives? So yeah, I would say overall, and if you look at our enrollments, for Plant Sciences, it's probably a good clue that it is a problem because we don't have huge enrollments for plants science students.

**Megan Roberts 01:02**

Do you have a particular reason as to why you think that could be?

**Respondent 5 01:08**

Well, I think it's not just our institution problem. I think it's a country wide problem, and even more, so probably a worldwide problem. People view plants as static as inert objects, sort of like a rock or paving stone. And I think that's part of the problem. I think there's, so many times we talk to someone and when they realize that plants move, or plants can respond to their environment where they're shocked, and what, whoa, that's amazing. So, I think part of it is just getting the message out there is it's not there.

**Megan Roberts 01:46**

Right, my next question to you, and you briefly touched on this already, but do you have issues getting students to enroll for your plant science degrees?

**Respondent 5 01:55**

As far as I'm aware, I mean, I'm a fairly new lecturer. So, I don't know all the ins and outs of our department admin structure and stuff. I think in the postgraduate level, I think it's less of a problem. I think I've whenever I've put adverts, I've had quite good response from postgraduate students. But those are students who have already specialized in botany in some degree or another or agronomy. But I think in the undergraduate levels, I think it is a problem.

**Megan Roberts 02:32**

And you, you said you're a fairly new lecturer, but maybe have a reason as to why you think that it could be so low.

**Respondent 5 02:52**

Again, it goes back to the whole not being aware of plants and how important they are for human survival. I mean, I really think most people don't think about how you, almost everything you eat is plant based, or survives off something plant based. And, you know, everything like petrol, pretty much everything in human life is revolves around plants in some way or other. And I think people just don't realize that and they don't see the value in studying plants, like they should.

**Megan Roberts 03:29**

And my next question is, 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 5 03:44**

A first-year subject... I think... Well, that's a tricky one, right? You want to do everything? I think in a first-year course, I would probably say broad, because you want to pose the students to all the different aspects of plant science before they start specializing in a specific field. That is one way to look at it. I think you don't want to overload them with tons of theory in every single one of those fields. I think you would want to focus on key concepts maybe for each field. So, in that sense, it's limiting it to specific concepts. But I mean, plants plant science itself is a pretty broad topic. I think I kind of said both was answer.

**Megan Roberts 04:50**

Both can be an answer

**Respondent 5 04:52**

Okay, good.

**Megan Roberts 04:56**

Okay, my next question. Did you read through the interview guideline that I attached to the email?

**Respondent 5 05:05**

Yeah, I did briefly but a while ago, I'm going to confess that I don't remember them very well,

**Megan Roberts 05:11**

I will then post these in the chat.

**Respondent 5 05:16**

Yeah, that'd be great.

**Megan Roberts 05:26**

Okay, so my next question is, which of the following concepts Do you think should be incorporated into a first-year plant science module, evolution, pathways and transformations of energy, information flow exchange and storage structure and function or systems.

**Respondent 5 05:53**

I think that evolution should be taught in every from first year all the way through to final year. umm of the others. I think information flow is probably really important. And then I also think probably structure and function would be an important baseline for to build the rest on because pathways transformation of energy, those systems, you need the basics of you know structure function and information flow to build upon those.

**Megan Roberts 06:30**

And evolution? why would you pick evolution?

**Respondent 5 06:34**

I think it's an important concept for biological students to understand deeply because it's such a controversial issue in the world. And we need more people who thoroughly understand it to be able to promote it and defend its standings or just, you know, it's what it proposes, I guess.

**Megan Roberts 06:58**

And if you had to pick your top two of those five,

**Respondent 5 07:05**

if I had to pick the top two, then I guess information flow and structure and function.

**Megan Roberts 07:10**

Okay.

**Respondent 5 07:11**

For a first-year course, yeah, right?

**Megan Roberts 07:14**

Yeah. And if you had to pick one that you would say should not be in a first-year course.

**Respondent 5 07:27**

Probably systems, that I feel like that's a higher level. That will be easier to teach once you've got the basics, but then I’ve probably got colleagues who would completely disagree with me on that.

**Megan Roberts 07:47**

Okay, so then my next question. I just want to post it in the chat. Okay, my next question is, which of the following threshold competencies you think should be incorporated into a first-year science module? The process of science, the interdisciplinary nature of science, the integration of science in society, communication, collaboration, understanding and interpreting data, or quantitative competence?

**Respondent 5 08:23**

Okay, um, how many was I supposed to pick, three?

**Megan Roberts 08:27**

Any of them? So, which ones do you think are important?

**Respondent 5 08:38**

So definitely the process of science that absolutely has to be number one. I think that the interdisciplinary nature of sciences is an important one for first years, because they learn, you know, they learn physics, and they learn chemistry, and then they learn plant science, zoology, but very seldom are the dots connected between those subjects. And I think it would, like if you really like plant science, and you really hate chemistry, being able to see connection might help you actually study chemistry better as well. So, I think that interdisciplinary nature is probably quite important. I also think the integration of science and society is important because it gives them like an understanding of why what we do is important. Why is planet science important to humans? What we're doing matters, which encourages them to study these things because it makes it more personal to a student if you can see that what you're studying affects the food on your plate, for example. Um, and then I always because I'm very much a network-based researcher, I feel that collaboration and communication are key, always.

**Megan Roberts 09:59**

Okay, if you have to pick your top two of those, which do you think you would pick?

**Respondent 5 10:04**

Process of science and integration of science in society.

**Megan Roberts 10:10**

Okay, and if you had to pick one that you thought was not important for first year course?

**Respondent 5 10:17**

Probably quantitative competency, I feel like that's a higher order one that you can work on more in second year and third year.

**Megan Roberts 10:29**

Okay, great. Then my next question is, okay, have you ever heard of vision and change?

**Respondent 5 10:42**

Yes.

**Megan Roberts 10:44**

Where have you heard about it?

**Respondent 5 10:46**

When we were when Angelique and Quinton and Gary first proposed recurriculating BOT 161.

**Megan Roberts 11:01**

Okay, my next question, what do you think the barriers to changing the first-year curriculum will be?

**Respondent 5 11:13**

I think, well, in an academic institution, one of the big ones is probably trying to change the minds of some of the older academics who've been there for years and taught it this way for years and want to teach it this way for the years to come. I think that will be tricky. And I think the other barrier is, what is what the structure of the second- and third-year courses look like, because those courses are probably reliant on what's being taught in 161. And if we change 161, and it's now not compatible with what's being taught above, that could cause issues going forward. So, I don't know if it's a barrier, or just something that really needs to be looked at very carefully when you do this thing. Um, I think those are probably my top two, I can't think of anything off the top of my head. No.

**Megan Roberts 12:14**

Okay, do you think the students will have any resistance to change?

**Respondent 5 12:22**

Well, because it's a first-year course, I actually don't think that'll be a big issue, because I think they're coming in fresh, they don't actually have preconceived ideas on what it should look like or what they should be or how it should be. I imagine if you wanted to change drastically change the structure of second- or third-year courses, you would probably have more pushback, because they've got a rhythm and a vibe that they want. But I think a first-year course is probably not going to cause you as many issues with the students.

**Megan Roberts 12:53**

All right, do you have any suggestions as to how we might overcome these barriers?

**Respondent 5 13:04**

The academics who don't want to change, I think it's going to be a tough one. Um, I think one way would be to make sure that the lecturers who are involved in the course are on board and I think if they're generally open fresh, new, young lectures, I think you probably would find it quite easy to convince them. I think the older individuals, it will depend individual to individual, I mean, some are willing to adopt new strategies and new things, others are less so. And I think you would need personal communication to find out what those people's concerns are and how you can address those specific concerns. Because then it would be easier for them to adopt that change. So, communication.

**Megan Roberts 14:04**

Okay. And we have already briefly touched on this, what kind of resistance you will see would lecturers specifically have if this change is being introduced?

**Respondent 5 14:19**

I think the big one is that they're going to think they have to do more work. And they don't have the time. I think all lecturers are pushed to the absolute capacity and limit and the idea of having to remake your lectures or remake your class notes, I think is actually a very big ask. And I think that it will be very that I think that will be one of your, number one is that they just don't have the time. Yeah.

**Megan Roberts 14:53**

Do you have maybe an idea of the good selling angle, motivate people to be willing to take part in the change.

**Respondent 5 15:02**

Sorry say that again,

**Megan Roberts 15:03**

Do you have any suggestions as to what would potentially be a good selling angle for us to motivate people to be willing to take part in the change?

**Respondent 5 15:17**

Hmm. I think if you can show them, I think there's a couple of things, I think if you can show them that there is going to be a massive benefit to it, that these students will be much, much better in second year, I think that will definitely motivate a lot of people to try and enforce those changes. I think if you can come up with a strategy that makes it easy for them to adapt to the changes you're proposing. So, if you've got a step-by-step way of doing it, or a nice laid up plan, that makes it really simple and easy, and not like seven pages of document that they must read to do it, like it must be bullet form, pictures and diagrams that they can just look at and be like, okay, now I know how to structure this to make it work. I think that will also make things much easier for people. And I think also if they feel like they're included in the process, so you're not prescribing it to them with you, you know, you say so you teach the section. These are ideas, what do you think would make it better, you know, so that they feel part of the process? I think that will also help.

**Megan Roberts 16:37**

Okay, my next my final question is, how important do you think hands on practical sessions or first year plant science course?

**Respondent 5 16:50**

I think it's really important. And I think at the moment, while we have smaller numbers, I know, they think it's a lot because there's like 600 of them or something. But, I mean, if we compare it to genetics, or MLB, it's really not that big yet. And it is feasible. And I think it is absolutely important. I know for myself, when I was an undergrad, I fell in love with science in the practicals. And in the subjects, I was doing in the practicals. It wasn't in the theory classes. So, if you want to inspire and get students interested in the subject, I think a hands-on approach is absolutely the most important. And actually, when I was a postdoc at UC Davis, I did a course in college teaching in a modern college. And there was a study we looked at where they said that students who are considered first generation students or students whose parents have not been to university. They learn much, much better via active learning and hands on learning. And they do 10 times better than other students whose parents have been to university they do well either way. But for the students who haven't got that background, it's much better to have the active learning. So, I think hands on lectures, yes. Oh, pracs. Yes. hundred times? Yes.

**Megan Roberts 18:16**

Do you have any suggestions as to pracs, we could run more skills that you think are important to teach, in pracs?

**Respondent 5 18:28**

in a first-year level? I think that you could actually keep them pretty simple and have just the basics of for instance, if we were looking at structure and function in a plant, just the basics of letting them grow a plant and document how it grows. Because a lot of students, especially in the cities, I mean, even when I was at Davis, I had an undergrad student who is in his fourth year, and he grew up in in inner city, San Francisco. And before he met me, he had never grown a plant himself in soil. Um, and I think, you know, that would be a really good place to start, because I think a lot of these kids have never actually even put a seed in the soil and watched it grow over time. And, you know, starting there even would probably spark a lot of interest. So, what I'm saying is, they don't have to be complicated or difficult experiments. You could do them quite simple.

**Megan Roberts 19:34**

Okay, thank you. Um...

**Respondent 5 19:38**

I hope I helped.

**Megan Roberts 19:40**

Yes, definitely. Thank you. Do you have any questions for me or anything that you would like to add?

**Respondent 5 19:46**

No, not at this stage. I mean, we meet in two more times, right?

**Megan Roberts 19:51**

Yeah, probably. Yeah,

**Respondent 5 19:54**

no, not at this stage. I think it's interesting. So are you master’s in education or masters in science, l

**Megan Roberts 20:03**

um masters in science education,

**Respondent 5 20:06**

okay, yeah. Okay. Its own degree.

**Megan Roberts 20:08**

Yes, I'm under NAS my faculty is NAS. And all of my, my undergrad and my honors were all plant science. Yeah

**Respondent 5 20:20**

Okay, I actually think that's an awesome idea. I think we need more and more people like you doing this kind of work. So that's actually really cool.

**Megan Roberts 20:28**

Thank you. I appreciate that

**Respondent 5 20:30**

That's all I have to say.

**Megan Roberts 20:33**

I'm going to stop recording