Respondent 4 Interview

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**SUMMARY KEYWORDS**

plant, change, students, science, question, work, important, touched, structure, vision, collaboration, concepts, year, department, function, competency, module, broad, barriers, teach

**SPEAKERS**

Megan Roberts, Respondent 4

**Megan Roberts 00:02**

Okay, wonderful. Thank you so much for agreeing to participate.

**Respondent 4 00:06**

That's fine. No worries.

**Megan Roberts 00:09**

Okay, so I'm just going to ask you a couple of questions, and we can just chat about a few things. And it'll probably take about forty-five minutes.

**Respondent 4 00:21**

Okay, that's fine.

**Megan Roberts 00:24**

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

**Respondent 4 00:34**

I would say definitely, yes. Yeah. And I think my answer will come out in the next in the next question and the answer to the next question. So yeah, definitely, I think the plant sciences really struggle in comparison to the animal sciences to get students to register for the subjects.

**Megan Roberts 00:54**

Then my next question is, do you have issues getting students enrolled for your plant science degrees?

**Respondent 4 01:00**

Yeah, because we often find that the students are more interested in doing subjects like microbiology and genetics, or, well, obviously, the first always want to go into medicine or into veterinary. And then when they don't get accepted into those, and they do something like microbiology, or genetics with an animal focus. And it's only once we've kind of actually grabbed their attention and shown them how interesting Plant Sciences can be that we actually get the students, so yeah, it’s definitely a problem.

**Megan Roberts 01:31**

And do you think there's a specific reason that that problem exists?

**Respondent 4 01:38**

I think it's a very long-standing reason, I think it's probably the compound reasons, I don't think it's one you can't point pinpoint one reason I think it's probably due to upbringing, whether how much people have been exposed to plants, and how interesting they can be in the role that they play. Perhaps it's teachers at school that made, call it the botany side of biology, boring, more boring than the animal side and the human side. It's also public perception that, you know, if you're a vet or a doctor, then you've made it but you know, if you're doing something to plants, you're not quite there yet. So, it's, I think it's a really compound issue. And we can't just say it's one factor.

**Megan Roberts 02:25**

My next question to you 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 in the field?

**Respondent 4 02:41**

Okay, I think the latter, I think, on a first-year level, we should have a broader approach, and expose students to the role that plants play in various aspects of society of the ecosystem, food security, very important structure, fiber. So, in order to do that, you've got to touch on a number of aspects, and give them a basic broad foundation. And then on second year, and successive levels, then you can build on that and go into more detail and, and narrow it down. So, I think the first year should be broad with a number of things that you basically should just touch on.

**Megan Roberts 03:21**

Do you think that if we had to implement it that way, it would help with interest levels?

**Respondent 4 03:29**

I'm hoping so yeah, because I think the main reason why people don't understand why it's important and why it's so interesting to study plants, they don't understand the importance. And you know, when they don't even understand that when they pick up something half of it is made of plants or more than half and that if we were to neglect plants, we won't be able to survive. So, I think if they just get an appreciation of actually how fascinating plants are, then we can maybe grab some more attention. Yeah.

**Megan Roberts 04:06**

My next question to you is, which of the following concepts do you think should be incorporated in first year plant science module, evolution, pathways and transformations of energy and matter, information flow, exchange and storage structure and function systems?

**Respondent 4 04:27**

Okay, I'm going to go back. I've got that open here. So, I can just answer here. Okay, so again, because I said I prefer the broader approach. So definitely systems because that shows how everything links into everything else. So, I think we should focus on systems structure and function. And then some evolution I think the pathways in the information flow can move on to a second or third level, because if we're going to go for a broad approach, then we're going to start broad, and that's where the structures and the systems are. And then from there we build it.

**Megan Roberts 05:08**

Okay. And if you have to pick your top two

**Respondent 4 05:13**

The top two, I would then say, systems structure and function. Those were the ones that you asked me, right?

**Megan Roberts 05:23**

Yes

**Respondent 4 05:23**

Okay, I'm just checking.

**Megan Roberts 05:26**

And is there anything else that isn't listed on those five that you think could potentially be important?

**Respondent 4 05:40**

No, I think I think that's, that's a good place to start systems in the structure and function. And because that, that will give a good enough foundation on which to build the following year. Yeah. Yeah, no, I think so.

**Megan Roberts 05:58**

My next question, which of the following racial competencies Do you think should be incorporated in a first-year plant science module; the process of science interdisciplinary nature of science, integration of sciences, society, communication, collaboration, being able to understand and interpret data and quantitative competency.

**Respondent 4 06:21**

Okay, I think of those the first three and possibly the communication, but definitely the first three, I think, the last ones, again, we move into a bit more deeper understanding of the science and collaboration is definitely not something that first years need to know. So, I think, the process of science because they're going into a science field, they need to understand that. So that, to me is also a foundational issue. So, to teach them the process of science. Why do we do how do we think about science? Why do we follow certain procedures and protocols, then, again, to try and keep their interest if we can show them that the different fields on the different disciplines of science are all interlinked, then that interdisciplinary nature of science comes in so we can show them look, just because you're working on plants, it doesn't mean that we're ignoring animal factor, or we're ignoring the human factor, because they're all coming together? So that interdisciplinary nature, I think it's very important. And then, and it comes back to, to that carrot of keeping their interest is the interaction of plants of society, because that's where they're going to realize, oh, this is why I'm studying plant science, because they have a role to play in society. And communication is kind of borderline. But I think that can move on to a secondary level, because as a first year, they not get at a point where they have to communicate their own results. However, what oh would be important is for the first year to be able to communicate, why plants are important. So, for me, the communication sort of goes both ways. So, communication can probably also go on the first and the second. And later levels. I don't think collaboration at this stage is not something that first just need to know, data, we do it in very basic give it I don't think something that should be focused on in first year, and the same as quantitative competency. So, I think the first three and touching on how to communicate the first three, essentially, yeah.

**Megan Roberts 08:32**

Okay, if you have to pick your top two,

**Respondent 4 08:36**

Top two, then I would say the interdisciplinary nature of science and integration with society.

**Megan Roberts 08:47**

So, we've already kind of touched on this next question, which of the above listed concepts and competencies should not be taught in a first-year plant science module?

**Respondent 4 09:00**

Okay, so specifically, then I would say the last two, the understand and interpret data and the quantitative competency, no, let me just change that. I'm going to say rather collaboration and quantitative competency, because we actually do teach them to understand and interpret data. So I would say E and G, the collaboration aspect. And the quantitative competency. I think that's, that's not really a first-year level. The data one we actually do teach them in first year, it's just not as in depth as we would be teaching them a final year. Yeah.

**Megan Roberts 09:35**

And of the concepts

**Respondent 4 09:39**

Um... oh oh oh the concepts, then I would think, not to be taught at official level. Okay. Collaboration. I've mentioned that Okay, then I'm going to contradict myself if I say the process of science, because I've said that should be the first level.

**Megan Roberts 10:15**

is the one of the, the concepts or evolution, pathways...

**Respondent 4 10:20**

Oh, those ones so we back up there? Oh, of course, those concepts. At a first-year level, I would think information flow exchange storage. I don't think that's necessary the first year. And pathways and transformations of energy and matter can also, if we had to take one out of a take that one out. Yeah.

**Megan Roberts 10:52**

My next question, have you ever heard about vision change?

**Respondent 4 10:58**

Yes, I have.

**Megan Roberts 11:00**

And where have you heard about it?

**Respondent 4 11:03**

Various documents, policies, particularly universities got a policy for vision and change. And a lot of corporates have vision and change documents and policies. So yeah, and how different organizations define it is often slightly different. But in essence, the basic idea behind vision and change is the same. So, I’m aware of those concepts.

**Megan Roberts 11:34**

Is it a good way to go about changing the module?

**Respondent 4 11:41**

Yeah, I definitely think so. Because if you your vision gives you something to aim at, if you're not sure what your vision is, then you're just hitting around in the dark, and you're not really working towards a specific target. So, one has to have a very clear vision as to where you're going. So, if the vision is to overcome plant blindness, or to get more students enroll in the module, and at least you know, what you're trying to do. And then the change is how you're going to get there what it is that we need to change from the status quo to, to the achieve the vision. Yeah, so I think it's a very good way to approach it.

**Megan Roberts 12:22**

What do you think the barriers to changing the first-year curriculum will be?

**Respondent 4 12:29**

To be honest, I think, um, the amount of work that would be involved, that is going to be a barrier, because most of the academic stuff already overloaded. And I think the barrier would be like, we don't want to work. We're just going to carry on the way we are. And I don't think there are actually barriers in terms of the principle behind it. So, I think, well, in our department anyway, I think everybody's very keen to do it. So, we just do the amount of work. the only the only other thing I could I would envision is perhaps some of the have to put this diplomatically. The older or the more stuck in a way staff might not want to change things, they would say, no, it's been done this way for so many years. Why do we want to change it? So, it could just be not wanting to have a paradigm shift? Or it could be the amount of work? I don't actually foresee any resistance to the change itself? I think, in our department, particularly and I think in other departments to globally, there is definitely a shift towards wanting to change the way things are done. Yeah, to make it more enticing for young people. Yeah.

**Megan Roberts 13:53**

Okay. Do you have any suggestions as to how we might overcome these challenges or barriers?

**Respondent 4 14:00**

Well, if it's the first one regarding the amount of work, then I would suggest teams so that the workload is spread. And if it's a sense of resistance, because it's always been done this way, we don't want to change it. Well, that is very difficult, because that's literally trying to change a person and the way they think. So then it's maybe just almost a small group discussions and trying to almost win someone over by showing them arguments in favor of change. Yeah, but not doing it in a confrontational way.

**Megan Roberts 14:45**

Yeah. And my next question is already kind of touched on and what kind of resistance you foresee would lectures specifically have if this change is being introduced.

**Respondent 4 14:57**

No, I think that's kind of what I've said. So, the ones that are that have been doing it for many years, I think would not would not want to change what they would think is a winning recipe but might not be. And the other one would be just the amount of work to actually change your curriculum. Yeah, I don't actually foresee resistance to the idea of changing.

**Megan Roberts 15:20**

Okay. My next question is also briefly touched on what could potentially be a good selling angle for us to motivate people to take part in this change process?

**Respondent 4 15:33**

Well, I think the number of students definitely. And this can then follow on to, the more students we have in the department, the stronger the department is, and the easier it is to get research funds and investors in the department. So essentially, it will benefit everybody, and not just as lecturers, but also as academics. And then we can get more students going into research and we can have bigger programs running. So essentially, it's a long-term focus, and it's not just a once over, we're going to get more students in the first year, but it will, it will be a snowball effect where the department will seem to be stronger. Yeah.

**Megan Roberts 16:17**

Do you think students would have any problem with that change?

**Respondent 4 16:23**

I don't think so. No, I really don't think so. Because if you think about the first-year student that comes in, so maybe they've got some notes from a previous student, but if they actually see, but this course is more exciting than the one that they did last year, they should actually be grateful. I don't foresee problems from students no.

**Megan Roberts 16:44**

Okay, my last question is how important you think hands-on practical sessions are for a first-year plant science course?

**Respondent 4 16:55**

I think very, very important. I think anything in the sciences? Well, in our field of sciences, definitely requires hands on pracs. That what is done in the prac would obviously be determined by what exactly is included in the curriculum, but I really think it's important because it's one thing to learn the theory or even to watch videos, but it's when you see it for yourself that it sinks in? Yeah.

**Megan Roberts 17:22**

Do you have any suggestions as to specific skills that are important and need to be taught in practical sessions?

**Respondent 4 17:34**

That, again, would depend on what it is that we're aiming to teach the students in their first year. So, if it's about systems and structure and function, then the structure and function should be relatively easy, where they need to be able to link function to the structure of the plant, so they need to be able to say, to identify the structure, and then say, based on the structure, this is the function, so it's visual skills of identification of it, but then also the cognitive skill that comes in and saying, okay, but because it looks like this, it's going to function like that. And then that can go on a bit further to saying, okay, and because it functions like this, it's going to fit into the system in this way. So the first basic step is the identification of the structures of the plant and, and then that should follow on to the rest. So I think a lot of basic plant physiology, but in more No, no more morphology, not physiology, of identification of structures, and then their functions and then building on where do they fit in the biggest system of things. Yeah.

**Megan Roberts** 18:57

Okay, that's great. Thank you so much. Do you have any questions for me or anything else that you would like to add?

**Respondent 4** 19:07

No, I don't think so. All the best.

**Megan Roberts** 19:11

Okay, thank you so much. I'm going to stop recording now.