Respondent 2 Interview

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**SUMMARY KEYWORDS**

plant, module, science, change, students, concepts, important, evolution, approach, interest, curriculum, resistance, investigate, blindness, broad, field, year, lectures, competency, idea

**SPEAKERS**

Respondent 2, Megan Roberts

**Megan Roberts 00:02**

Cool beans. So, thank you very much for agreeing to participate. I really appreciate it. It's, um, so what we're going to do is we're going to just go through the questions. I'm not sure if you read through them.

**Respondent 200:21**

Yes.

**Megan Roberts 00:22**

Yeah. So, we can start with the first one, then. Do you think that plant blindness or a lack of interest in plants is a problem in your institution?

**Respondent 200:37**

I'm going to say yes, definitely.

**Megan Roberts 00:40**

Okay. Why do you think that is?

**Respondent 200:45**

Well, maybe not for the lecturers’ side, but the students when they arrive are very unaware of how important plants are in general. So, you know, just even a disconnect of where food comes from is very evident. So that's a big indication to me that this plant blindness.

**Megan Roberts 01:14**

Do you have issues getting students to enroll in plant science degrees?

**Respondent 201:21**

Um, well, I actually am only formally involved with one module that's an honors module plant identification, which is generally smaller group, since it’s an honors module, etc. So, for that, I'll have to say no, we generally had good amounts of students in that module.

**Megan Roberts 01:45**

Yeah. And overall, do you have any idea of any other modules?

**Respondent 201:51**

I'm aware that the enrollment for ecology modules is low. So that's the only that's the only other modules have any idea about. I know that that's an issue they... Yeah, they almost have to justify the existence of the modules because of the low number of students.

**Megan Roberts 02:21**

Do you think that there's a particular reason for that?

**Respondent 202:27**

I think there's probably a bunch reasons, but I'm sure major one is that people don't realize the career opportunities in that in that field. You know, doesn't. And, of course, it is a very much science, science-based field. So, you're not necessarily... there's not necessarily a lot of opportunities unless you planning on becoming a researcher. So, I could be wrong about that. But that's my impression. You know, there's not in industries that clearly employ ecologists, a lot of them go into research field. So, I think that's also a problem.

**Megan Roberts 03:17**

All right, thank you. Okay, so the next couple of questions are based off of the module itself, the first-year plant science module, BOT 161. So, do you think that 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 203:46**

I think I would definitely vote for a broader approach but also just because it sounds new and nice. Maybe if having experienced it, because I got taught in a narrower approach, so, it's easy to say that alternative is better. But I think a broad approach makes more sense. But one thing I do know, it's still very important to… that the students understand the basic tissues and organs, which falls under a narrow approach. So definitely a combination of both in some way, is what I think would be good.

**Megan Roberts 04:34**

Okay, do you have a reason for picking the broad approach?

**Respondent 204:46**

I think that the narrow approach doesn't necessarily show students how plants fit into the bigger picture of the natural world, etc. But it can be sort of boring in a way to just learn about all these narrow organ type things and transport and basically it exacerbates plant blindness because it's at this very crucial step, you know, of opening their eyes to plants, you're sort of boring them with plants or not linking it to evolution and as soon as you speak evolution, you bring animals in, etc. So, I think that's, that's why I think a broader approach is also good.

**Megan Roberts 05:39**

Do you think that if we have to integrate the board approach, would it help with the enrollment numbers?

**Respondent 205:50**

Um, as far as I know, enrollment numbers for first year, plant sciences incredibly high because it's compulsory. But in terms of later modules enrollment, yes, I think it will help. Definitely keeping the interest high

**Megan Roberts 06:14**

My next question is which of the following concepts Do you think should be incorporated into a plant science module? Evolution, pathways and transformations of energy and matter, information flow exchange and storage, structure and function systems, or anything else should be included?

**Respondent 206:41**

Okay, I think evolution is great. It's still controversial in some ways that piques interest. So that's good. I think pathways and transformations of energy and matter might be a little bit boring. My idea of what the first module should be is to really sort of pique the interest. And once that has happened, you can start going into depth because these things are important pathways and transformation of energy etc. is important but you don’t want to lose them too early on with these kinds of things. So, evolution, I think information flow exchange and storage that strongly links to evolution, the genetic side, which is also very exciting to some people, the genetic aspects, I think that's good to include. And then again, structure and function because you can't really speak about a plant unless you understand its structure. I didn't vote for systems. To be honest, I'm not quite sure by what you mean by systems, do you mean sort of the ecological aspect? Yeah, in that case, I'm might actually include it. The only one I left is then pathways and transformations of energy and matter.

**Megan Roberts 08:20**

Okay, and if you have to pick your top two, what would your top two be?

**Respondent 208:28**

I think I'm going to go again, structure and function just because it's really, it's the basics that you need to know although I do think they cover that in high school. So might be a bit a bit repetitive, I'm not sure it's something you'll know more about. And then evolution.

**Megan Roberts 08:59**

Okay. And which of the following threshold competencies you think should be incorporated into a first-year plant science module, the process of science, interdisciplinary nature of science, integration of science, society, communication, collaboration, being able to understand and interpret data?

**Respondent 209:25**

Once again, there's a fine line between keeping the interest and boring them. I think the process of science is important. So, I assume by that you mean a scientific method, etc., just critical thinking, you know? Definitely that, definitely the interdisciplinary nature of science. Again, that shows them how plants fit into the bigger picture. And also, what opportunities might be in the future for them. Integration of science with society, I think that's also really important. Again, it shows them why they even bothering learning about plants. And I think that strongly addresses plant blindness. Especially if you start speaking about food and, you know, textiles and medicines and stuff like that will come from plants. A lot of people are just not aware of that. And that's how science links to society. Communication, I think comes later on in studies. left that out, collaboration, similar story there, don't wait for that. I think understanding and interpreting data is important. Being a university degree, you need to be able to understand data and have some critical thinking. So that quantitative competency, could you maybe tell me what you mean by that, sort of a data analysis aspect?

**Megan Roberts 11:22**

Yes, it’s being able to analyze data and it also falls underneath being able to interpret what you have analyzed.

**Respondent 211:34**

I think for first year, maybe that's pushing it a little bit. So don't vote for that.

**Megan Roberts 11:41**

If you had to pick your top two,

**Respondent 211:50**

I think process of science is something that should really keep I mean, again, they get it in high school, I think, scientific method. I really like integration of science and society, as well. So those two are my top two.

**Megan Roberts 12:11**

Okay. Then we've already sort of discussed the next question, but which of the above list of come concepts and competencies do you think should not be in first year?

**Respondent 212:27**

Yeah, I think quantitative competency, you're going to, you're going to lose a lot of them because it might just seem too analytical too soon. And I think collaboration and communication is just out of the scope of first year knowledge that's really comes down the line when you start talking about publishing and stuff like that. So, I think that should not be included.

**Megan Roberts 12:54**

And then of the concepts you said pathways and transformations of energy and matter?

**Respondent 213:00**

Yes, I think that also pushing a little bit. Even systems could come in later in later plant science, I think

**Megan Roberts 13:15**

Okay, have you ever heard about vision change?

**Respondent 213:21**

I did not know about it.

**Megan Roberts 13:24**

Alright, now that you sort of know a little something about it, you think that it's a good way to maybe look at changing things?

**Respondent 213:35**

Yeah, I think it's, I think it's very good. You know, I think as time goes on, you know, you'll, you'll also have your opinions about this, but curriculums are constantly going to have to change. Right from grade R, you know, things will start changing. I hope that it will change to help preserve this planet. I don't know if you if you watch David Attenborough his new documentary, you should be trying to watch it. There's a lot of concepts that need to start coming in very early. You know, even capitalism is a problem. So that's going to change completely the type of things that are taught right through Primary School into high school. So, this is going to be a constant adaptation, I think. So, I think the concept of it shouldn't be static. There's there should always be room for change, changing with the times changing the needs of society should never go away. So, it is great that this this this current concept that things need to change, things might be worth changing.

**Megan Roberts 15:04**

Alright, so the next couple of questions have to do with barriers to change. So, what do you think the barriers to changing a first-year curriculum could potentially be?

**Respondent 215:19**

I think a lot of my next answers all revolve around time. So, I think a lot of lectures are obviously swamped, trying to balance research and teaching. And then of course, go try to be a normal human being with friends and family. So, it could be a daunting task to change all of your lectures all of a sudden. So, I think time is going to be a big issue. A lot of people are very set their ways and have been giving the same slides for maybe a decade, I don't know. So, but also, at the same time, I think, a lot of lecturers will be very well aware that there's time for change. And it might even be refreshing for them to start sharing some of the other knowledge, they definitely have. The time and general buy-in. So just a general, because there's a lot of parties involved, and everyone sort of needs to agree. Let's So, change some curriculum.

**Megan Roberts 16:36**

Right. Do you have any suggestions as to how we overcome these challenges? Or barriers?

**Respondent 216:44**

I think, yes, make it compulsory. It needs to come from high up from the dean or from the head of the department, you will be changing your, your curriculum now. And in this not much choice, there will obviously be resistance. But so, if the people higher up? I don't know if there's a sort of a university wide council as well, that looks at curriculum, is there such a thing? So, each university sort of determines on their own what they'll be teaching? Is that what seems like to you?

**Megan Roberts 17:25**

Yeah, I haven’t found information that there is such a thing. But I think oftentimes, they do sort of compare themselves.

**Respondent 217:37**

Because of course, it would be good if a change was across the board, across the country, for instance, which would obviously be a lot harder and take a lot of time. But definitely, I think convincing the people higher up even in our university structure, that this change would be worthwhile would be almost the first step because then it can be, it can sort of be made compulsory that these changes need to happen over a certain time period.

**Megan Roberts 18:11**

All right, um, what kind of resistance do you foresee would lecturers have. If these changes are being introduced?

**Respondent 218:22**

Again, I think they’re going to say that they don't have the time. That'll be the main they’re resistance.

**Megan Roberts 18:32**

Do you think that students would have any resistance to change?

**Respondent 218:41**

I don't think so. I think ...I think it'd be very good to ensure that there's no, no unnecessary repetition between high school biology and first year botany because I think that's another way the interest is lost. It's like, are we've done this already, you know, why should I pay attention to things? So, I think, you know, just from my experience, I wouldn't even care what was done in the past. I just want to pass the module. So, whatever's given to me to do I'd be happy. As long as it's sort of exciting. And obviously, not everything can be exciting. But don't think the students would have too much resistance to the change. In fact, if you can, right from the early on stages, show them how this is important and even sort of start hinting at future careers in first year already and be great.

**Megan Roberts 19:53**

Wonderful. So, my next question is, what could potentially be a good selling angle for us to motivate people to be willing to take part in the change.

**Respondent 220:08**

I think my idea is that if you can show the lectures and the people involved that are making this change, interest won't be lost. And thereby, the good students won't lose interest in plant science. And then at the end of the day, then they make their way through to postgraduate plant science modules. And so basically, it will strengthen the quality of your post grad students in the long term, longer term. So, I think that could be a motivation.

**Megan Roberts**

Yeah, I agree. Okay, my last question for you is, how important do you think hands on practical sessions are first year course?

**Respondent 2**

I think they very important, essential. Again, it keeps your interest if you've got, you know, if your hands on involved, you see new things, learn new things. And it doesn't feel like you just have to parrot what's being taught there's sort of a little bit of self-discovery. Just as a note, I would love for first years already. Obviously, it's logistically difficult, but to go out into natural areas already and start, because this is a passion of mine is teaching people about plant diversity and importance of natural areas. So that kind of hands-on practical sessions, getting them out into the field early on would be, would open a lot of eyes, I think. But in general, I think it's really important, and it will also definitely address plant blindness to a degree.

**Megan Roberts 22:17**

Right. Do you have any other suggestions as to practical’s we could potentially run?

**Respondent 2 22:26**

There’s this ideal an idea that Prof Barker threw around once is that students should go home and find a bunch of household items/foods, and actually try to investigate what the actual plant species are involved in making those products. Whether it's even just sorghum or, you know, but very often, there's very interesting plant species involved. You know, even something like a car tire, you know, just to make them go investigate, you know, it is this rubber actually come from might be made synthetically these days, but then they'll come across the rubber tree. And I think that's a really cool idea. So, force them to go and investigate all these things that are used on a daily basis at home, what are the actual species that are being processed to give us this? I think that's a cool idea. Yeah, I can't think of too many others right now.

**Megan Roberts 23:35**

All right. Well, thank you. That was it for the questions. Do you have any questions for me or anything else that you'd like to add?

**Respondent 2 23:49**

No, I don't think so. But I'm very curious to see what your results are going to be all of this. I'm very one way to match the story or see how honest is maybe I didn't have enough coffee. And so yeah, I look forward to seeing what you find out. Yeah. So yeah, no, I don't think anything else. Thanks again for asking me. I actually enjoyed thinking about this as well.

**Megan Roberts 24:19**

Okay. Cool. Thank you again, for participating. I very greatly appreciate it.

**Respondent 224:25**

It's a big pleasure.