Respondent 20 Interview

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**SUMMARY KEYWORDS**

students, plant, year, module, lecturers, component, science, interest, elements, important, change, question, sessions, field, biology, practical, people, bigger picture, attract, taxonomy

**SPEAKERS**

Megan Roberts, Respondent 20

**Megan Roberts 00:01**

Okay, um, can you hear me fine?

**Respondent 20 00:08**

Yes, yes, everything is okay.

**Megan Roberts 00:09**

Okay, wonderful. Thank you. Um, okay, can you please start by stating your area of expertise or your field of research?

**Respondent 20 00:24**

Basically, a botanist, I would say a plant taxonomist, with an interest in African orchids.

**Megan Roberts 00:31**

Okay, that's very interesting.

**Respondent 20 00:34**

And I'm also the curator of the herbarium here, that also might be important. And I'm a senior lecturer here at UKZN.

**Megan Roberts 00:40**

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

**Respondent 20 00:57**

Certainly is, I think most people, when they come here, our students only think of animals. We do have a strong entomology team. And because there are lots of applications, some of them go in that direction. But plants and particularly plant taxonomy comes at the very end of the of the feeding line. So, the interest is generally low, particularly at undergraduate level, it's only I would say the more mature students that actually see that the opportunities are there to work on much larger groups that understand that that sort of link in evolutionary terms or in pollination terms, or in chemistry terms, that that come towards the plant biology side. And we are fortunate to have a very strong team here in plant biology, particularly around plant pollination and pollination strategies and chemical ecology.

**Megan Roberts 02:04**

Do you have a reason that you think that the interest could be so low?

**Respondent 20 02:16**

I think it's misinformation. Largely, I think there have been studies that say that plant biology is not well treated in high school. And as a result, the focus is often not on plants, but on animals. And that I think filters through in at university level.

**Megan Roberts 02:40**

Okay, we've sort of already touched on this, but do you have issues getting students to enroll for your plant science degrees?

**Respondent 20 02:50**

Certainly. We like for instance, in the in the lower years, some of the courses I teach, for instance, plant diversity and use, and for some of the degrees, they are taking that compulsory course. So, it's very difficult to draw a conclusion from that because they have to take it. But if I look, for instance, at almost level in the last two, three years, none of the students have taken plant advanced plant bio systematics. One. One reason for that, I think, is that they are not all that interested. And the second reason is, they perceive it as difficult because there is an evolutionary biological component to it. And thirdly, it is field based and believe it or not, some of our students are not interested in going outside of the into the field.

**Megan Roberts 03:49**

That's interesting, that was always my favorite place to be.

**Respondent 20 03:53**

That's what I would think and we are having a lack of field-based components, whatever they be their plant or animal or entomology doesn't really matter. So, one would think that it encourages students to take that module but okay COVID has not allowed us to do the field component, but be that as it may, even the year before, none of the students took that that module.

**Megan Roberts 04:23**

So, do you think as 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 20 04:41**

In my opinion, it should be a very broad approach, whereby you expose the students to all the possible lines of research that that occur within that plant biology field. So, it should be from plant anatomy taxonomy. Towards evolutionary studies towards physiology, in my opinion, it should in first year, it should be broad, because also, many of the students that might take a module in first year might not go in the plant biology direction afterwards. And they should still know the basics of what plant biology is all about. So definitely, I would say a broad approach.

**Megan Roberts 05:26**

Do you think that using an approach like that would potentially help pique interest or give people information about what else they could do in the plant sciences field?

**Respondent 20 05:37**

Absolutely, and I think it's also critical that when you do a first-year course, the students are new, they come from all directions, they come from all backgrounds. They are new to the university, and they're trying to find their way and their interest. I think it's, it's critical that you expose them to the breadth of plant biology, but also that you do that with the best lecturers that you have the ones that are most, I'm not saying the most, if I may use that term, the cleverest one, or the one with the highest reputation or anything, but the people that from an educational point of view are the best in expressing themselves, and drawing that interest. So, you should throw your best people out there in first year to attract because once you've, you've got them after the first year, they will stay in that direction. So that's a component I never see integrated in, in the thinking, should we Who should we encouraged to do this, and often the best lecturers are the ones that, you know, prefer to do the more focused modules and personally I think that that's wrong.

**Megan Roberts 07:00**

All right, so my next question is a bit of a longer question. So, I'm going to post part of it in the chat, just so you can use it as a reference. So, which of the following concepts Do you think should be incorporated into a first-year plant science module? evolution, pathways and transformations of energy and matter, information flow, exchange and storage, structure and function? All systems?

**Respondent 20 07:36**

I would say that they have got your text here next to me. So, I can follow up quite nicely. It's very difficult to answer that question. Because it also depends on what the other modules in first year are. So, we have a module that dwells in first semester. It's called the smaller side of life, whereby we look at biochemistry whereby we look at some of the issues, some of the topics that you're mentioning there are integrated there, if you have a course like that, it might not be necessary to touch on all the elements that you're giving. But I would certainly say that evolution is one of the elements that need to be taught at people, that the students see it in a in a bigger context, where are we coming from? Where are we going? That to me is very important, a little bit about structure and function, but I would not overdo that because that is, in my opinion, better suited for second and third year. But the bigger picture and in that bigger picture for pathways and transformation of energy and matter. So that they see that you're you know, when you're a plant you take up chemicals from the soil and the air and where does that go and out does that end up to sketch that bigger picture? structure and function fills up? how that happens? systems? I'm not sure it might be something that is better suited at a later stage. Can you still hear me?

**Megan Roberts 09:29**

Yes, I can.

**Respondent 20 09:31**

Because somehow, you've gone have a complete other your again.

**Megan Roberts 09:38**

Maybe though Yes, unstable. I'll just turn my video off. Okay. Okay. Um, if I had to ask you to pick your top two, which do you would you think would be the most important?

**Respondent 20 09:54**

Personally, I would say it's not an easy one. I would say the first two evolution and pathways of transformation of energy and matter. However, the first one, I think you can make very exciting. The second one is rather boring, in my opinion, or is a bit tedious. And you got to be careful to keep an eye on how your students will like the course I mean that their perception of his interest is it is important that you need to gain their interest in plant biology. So, it depends a little bit on how you put it together. But those I think would be my priorities.

**Megan Roberts 10:45**

And one that you think would be better suited for perhaps a later stage or less important to do.

**Respondent 20 10:53**

structure and function, the details of that I think need to come in second, third to third year.

**Megan Roberts 11:01**

Okay. Moving on to question five, then, which of the following threshold competencies Do you think should be incorporated in a first-year plant science module?

**Respondent 20 11:15**

I looked at that. And I think actually the most important one, there is the process of science. We start with that in our first-year course. So, we do a number of lectures on explaining to the students how science works. And I think that is important. The others, I feel are less important, certainly in the context of a first-year plant biology, course I think those are more matters for discussion groups. Perhaps at a later stage, I would, frankly, not spend too much time on that understanding and interpretation of data. Your little bit, perhaps, but I think those are our more advanced topics. So, the process of science to me is the most important one there, perhaps, you know, so that people see the value of science, the integration of science with society, what do you do with your science may also be a good way of catching the interest of the students.

**Megan Roberts 12:35**

So those would be your top two, then the process of science and the integration of science but society? Can you still hear me?

**Respondent 20 12:54**

Yes, yes. See, there's one on the last one on the next page. So quantitative competency. That also I would say is definitely second year.

**Megan Roberts 13:08**

Okay. Um, okay. Um, have you ever heard about the concept of vision and change that I spoke about in my inflammation leads?

**Respondent 20 13:22**

So, I looked at that, and that was the first thing or the first time Yes.

**Megan Roberts 13:30**

And do you think it's a good sort of guideline to use if we're going to be changing our module?

**Respondent 20 13:40**

I thought it was, you know, the information that I saw there was rather limited. So, I'm not too I don't have a strong feeling or vision on that. Yeah, changing of a module is always a difficult thing to do. But in, I think it might be more difficult for the lectures than it is for the students because every year is a new cohort. They don't really know what was there before except a few that are repeaters.

**Megan Roberts 14:15**

So, what do you think the barriers to changing a first-year curriculum will be?

**Respondent 20 14:26**

There are obviously personnel issues, people are used to what they have been teaching over the years. And they might be reluctant to change that. Not necessarily, I think, because they don't want to. But one has to realize that every time you change a course, you got to as a lecturer basically, start from scratch again, preparing everything and if you're given time to do that, Fine. But in many cases, and I sympathize with my colleagues, in many cases, you just it just thrown at you. And you're told now we are going to change, you just make sure that you're ready to, to change that. That's also what happened basically, during this year, during COVID, everybody says, now you're going to change completely to eLearning. While there is basically no time to prepare that, if the lecturers would be given a year to prepare, that would be fine. But that's not very practical. And I think that might be a certain reluctance. Towards change, from the point of view of the students, I don't really see a problem. But it depends also, you can't change just one course. I mean, changing one course has a ripple effect on all the other courses that are in the discipline, and that need to be changed accordingly. Basically, you got to look at the bigger picture and see, if you change one, how does that affect the others? And what do we take out of those others? Or how do we rearrange them? So that the whole curriculum becomes sensible? So, it's not just one course it's all the courses together that need to form a comprehensive set of information and vision.

**Megan Roberts 16:42**

In terms of the time component that staff members might be a little bit reluctant towards changing, do you have any suggestions as to how we might help overcome that make that a little bit easier?

**Respondent 20 17:04**

I think the element is time, and that element is pressure, the for lecturers they expect you to do all the elements of an academic career at the same time during the same year. And at the end of the road, you're judged on what you did during that year for all those elements. Those include teaching those include research, those may include other elements like community service, in they may include elements like in my case, herbarium management, if you have to do all of the others, at the same time, it becomes cumbersome. But if there is a flexibility in, in judging, at the end of the of the year, and taking away some of the components that they say, well, okay, this year, we are not going to judge you so much on the amount of research you have published, we are going to make that component less, we are going to give that component less weight, but we would expect you or we would request you to prepare this course for next year. So, adding without taking away, something doesn't work. And that will cause a lot of reluctance. But if you take away some elements and you then say Well listen, instead of this, you can, we would prefer that you do something else, and there might be more openness towards the change.

**Megan Roberts 18:43**

So, my next question we basically answered, what kind of resistance Do you see with lecturers have with this change being introduced? Do you have anything else that you'd like to add to that?

**Respondent 20 19:02**

Oh, no, I think I've given you the elements there. It's, it's could be a good thing, that there is somebody that drives the process. And that brings everybody together rather than having all your individual lectures, being faced with the change but not having the overall view of where that leads to. So, if you go that route, probably everybody needs to be involved and it does need to be facilitated by somebody who can, smoothing out all the bumps that will be there inevitably along the road

**Megan Roberts 19:56**

and in terms of us Selling angle, do you have any idea of what we could potentially use as a selling angle to motivate people to be willing to take part in the change?

**Respondent 20 20:12**

Talking there this the angle from the point of view of the lecturers, I would assume?

**Megan Roberts 20:17**

Yes.

**Respondent 20 20:20**

I think that the selling angle is pretty straightforward, it should be that you would be able to attract more and better students towards your postgraduate study, study program. So, what you don't want is that people take the plant sciences because they've got no other option you do want to you do want to attract the best students, and particularly in the plants, that that is problematic, you often end up with the student that is rejected by everybody else, and then decides to do plant taxonomy because he's got, he or she hasn't got any other option. So, the selling angle should definitely be to build a stronger postgraduate program, and to attract that to students in that post graduate program. And to me, that would be I think that I would go for that. It's certainly something that sounds attractive to me.

**Megan Roberts 21:25**

So, my final question to you then, how important do you think hands on practical sessions offer a first-year plant science course?

**Respondent 20 21:37**

They are absolutely necessary. I think the more practical sessions a first-year student has the better. And in particularly in first year, they should focus on very basic elements. But students, I think they'll they do like the practical sessions. And they somebody was saying the other day, if you see our students here, after a practical session, they probably walk out with their lab coat, on just to show that they have been doing something with their hands. That is probably true. And I think it motivates first year students to do some practical aspects. But it's also absolutely necessary. And there can be very basic things like learning how to make proper drawings with scale with annotations, with labels, learning to do some basic mathematical calculations that are needed in the rest of your course, learning to use a microscope, learning to use a pipette, that sort of thing. Very basic. And I know you're often dealing with very large classes. But I think it's absolutely necessary. We there is, this is what we are missing at the moment, with all this e learning students come in second year, and they have never they've never touched a microscope, you know how much damage that's going to do. We can do something we can you know, you can put a lecture on Moodle or on online what you can't put a practical session online, they've tried that and there are some software's and some websites that can help you play but you're still playing with a computer, you're not playing with the real thing. So, you know, we can't skimp on those practical sessions need to be there. And they are great motivators. And they are absolutely essential. If you want to train students in in any discipline, for that matter.

**Megan Roberts 23:55**

Okay, um, that's it from my side. Do you have any questions for me or anything that you would like to add?

**Respondent 20 24:06**

No, not really. I hope it helps you in working something out.

**Megan Roberts 24:18**

I'm sure. Well, thank you.

**Respondent 20 24:20**

Okay, you're welcome.

**Megan Roberts 24:23**

Okay, I'm going to stop recording now.