Respondent 14 Interview 2

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**SUMMARY KEYWORDS**

students, important, curriculum, plants, practicals, change, barrier, science, competencies, taught, question, year, subject, module, understand, cover, physiology, faculty, lecturers, process

**SPEAKERS**

Megan Roberts, Respondent 14

**Respondent 14 00:00**

Should we carry on with question three?

**Megan Roberts 00:01**

Yes, please.

**Respondent 14 00:05**

Okay, so I, in my opinion, I think that it should be a combination of the topics under the broad approach, as well as those from the narrow approach. So, I've always thought that a curriculum that starts with the very basic and then builds on as the foundation grows, is better for a first-year student, because of the variable quality of students that come into a program. So, I don't think a first-year plant science module definitely needs to talk about evolution and pathways of transformation of energy and matter. But it also needs to take into account later on plant tissues and organs and plant responses to biotic and abiotic factors. Because I think it would then cover both the cellular, the physiological, as well as the ecological and concepts that are important to build at a first-year level. So, I wouldn't be able to choose between the one or the other, I will think a combination of the two would be better.

**Megan Roberts 01:26**

Okay, and in terms of introducing the different fields of plant science within a module, you think that would have value?

**Respondent 14 01:38**

So, would you mean, such as physiology, eco physiology, those kinds of themes?

**Megan Roberts 01:45**

Yes, yeah. So, ecology, taxonomy, physiology, medicinal plant science?

**Respondent 14 01:52**

And I definitely think those are important to include, just so that students have an idea of how they can use the knowledge that they are accumulating. I think if you divorce, sort of those general themes from the curriculum, students may not see the wider relevance of each of those. So, I definitely think it should be introduced.

**Megan Roberts 02:21**

Thank you. Right, then moving on to question four. Which of the following concepts Do you think should be incorporated in a first-year plant science module?

**Respondent 14 02:36**

And before answer, can I just ask for number see information flow exchange and storage? Exactly? What would be covered under that?

**Megan Roberts 02:47**

So that would be the sort of genetic component of it.

**Respondent 14 02:52**

Oh, yes, of course. Okay. Yeah. So, I definitely think evolution, because that gives us a fundamental understanding for diversity, as well as how pathways have evolved over time. And then pathways and transformations of energy and matter are very important. For the information flow, exchange and storage, they could be quite a bit of overlap in what is taught in zoology. And so, it would be important for students to, it would be important for staff to make sure that students are being covered in that in the curriculum. But it may not have to fall under Plant Sciences. It could be in another subject. And then structure and function is quite important. So, once you've talked about evolution, you've talked about diversity. And you can then talk about, okay, why are some structures? What are the functions of some structures compared to others? So, I think it gives it a great overview of what Plant Sciences is, at a first-year level to build on for second and third year.

**Megan Roberts 04:11**

Okay. Would you be able to pick a top two out of those?

**Respondent 14 04:17**

I would go with a and b.

**Megan Roberts 04:22**

And one that you think we could potentially leave out?

**Respondent 14 04:28**

What would what would you cover under systems?

**Megan Roberts 04:31**

That could be the ecological systems

**Respondent 14 04:33**

Oh, I see. I definitely would keep that in. You know, structure and function can always be taught at a second-year level. And that might be more meaningful if there's a module on eco physiology. So, I think you could, you could make up D in another part of the curriculum

**Megan Roberts 05:00**

Are there any other concepts that I haven't mentioned under those five that you think would be particularly important to put in a first-year module?

**Respondent 14 05:08**

So, I'm just thinking back to what we taught at Nelson Mandela University and Rhodes University. And I think those are generally the topics that were taught. Yeah.

**Megan Roberts 05:29**

Moving on to question five then which of the following threshold competencies do you think should be incorporated into a first-year science module?

**Respondent 14 05:40**

I definitely think the process of science is important. Because in the curriculum that I've been involved in, the process of science takes priority throughout the three years. So, an introduction to it in first year, is of great benefit to the students. The interdisciplinary nature of science, that becomes more and more important as students become researchers, so they should be introduced. To that, it doesn't have to be a huge focus, I think (a) is a major focus. C, I think is a major focus, the integration of science with society, more and more with climate change, with people understanding, or needing to understand biology and science, I think that has become quite important. And I think students should become comfortable with that from an early part of their learning. I think C and D really is of greater benefit as you get to 3rd year and honors, and f is very important. So, understanding and interpreting of data collecting data, that it goes hand in hand with the process of science. So, I definitely think that is important.

**Megan Roberts 07:07**

Okay, I'm going to ask you to pick a top two, again, if you can.

**Respondent 14 07:14**

I think the process of science so a and f would be my top two.

**Megan Roberts 07:20**

Okay, and one you think we could leave out?

**Respondent 14 07:26**

I think collaboration you could leave out at the first-year level.

**Megan Roberts 07:35**

Okay, so that answers questions six, then. Yes. Then question seven. Have you ever heard about vision and change before I contacted you?

**Respondent 14 07:46**

No, not at all. And I was I was a little bit worried about having not heard about it, when I looked at it. So no, I had not heard about it before you had emailed me.

**Megan Roberts 07:59**

What do you think about it now that you have heard about it?

**Respondent 14 08:05**

I just looked into the link that you sent. I liked the way it was differentiated into the concept and competencies. I'm the first-year module coordinator, so we're always trying to understand exactly which skills and which competencies we want our first-year students to have. So, I thought that was it was a nice way of putting it together. And I think when I go back, we should definitely look at that again, and see if we are covering some of those aspects. So, I think I thought that was quite interesting.

**Megan Roberts 08:47**

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

**Respondent 14 08:57**

So, we will be talking sort of on all levels here or so at a university level of staff level?

**Megan Roberts 09:04**

Yeah. So, question 10 asked specifically about lectures. This question 8 would be, in terms of students, in terms of management, in terms of staff in the departments?

**Respondent 14 09:22**

Um, I think it I think, whenever change is put onto the table, people generally, you know, you either are happy for change to occur because you see the value of it, or you want to stay in your comfort zone. So, I think one of the barriers is that your staff, maybe not the academic staff, may see it as a change in the comfort zone and a lot of work to change a curriculum because it does require re looking at everything from practicals to tutorials, to the actual lectures, so trying to get everyone on board with that change, if they were not involved with those discussions from the start might be quite difficult. I think at a faculty level, there may be some aspects depending on what other subjects are taught in the faculty to ensure that if students have a botanical requirement for other subjects, to ensure that other subjects are happy with the changes, so there may be sort of some barrier to that. And then, of course, if it's going to cost a lot of money to change the curriculum, so there could be a financial barrier. Oh, it depends on what how drastic the change will be. That could be a low to moderate barrier. I don't think there'll be issues from a student point of view, because they would have no foundation to grade it on or to, to, to have an opinion on it. Unless, of course, those students have failed the previous year. So, your students that have not passed the first time, they might have an issue with it. Yeah, so they could be a human barrier to it. Just a mindset change. There could be a financial barrier to it. And then of course, just integration with other subjects taught in the faculty.

**Megan Roberts 11:31**

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

**Respondent 14 11:39**

I think from a faculty point of view, it's always good to have you know, if it goes through the faculty board, which I'm sure it will, excuse me, a discussion with relevant departments before it goes to faculty board might be a good idea, so that they know what's coming. From a financial point of view, I think if solutions can be brought to the table, to see how to overcome those financial aspects, I think that would be quite important. Yeah, I think I think those would be the major things that you could do to overcome those barriers.

**Megan Roberts 12:27**

Okay, then, in terms of lectures, specifically, what kind of resistance would you foresee?

**Respondent 14 12:36**

I think it comes down to exactly how the delivery of the first-year curriculum will change. So, if you are going from with the whole COVID thing, everybody went to more online. So, if it's going to be, you know, a ratio of face to face and online, there might be some resistance from lecturers. If lectures have taught that particular aspect of the curriculum for many years, there may be some resistance to change, because they get quite territorial about the subject that they are teaching. And then of course, you know, you have your younger lecturers are generally quite open to change, and your more senior lecturers may not be so they so you could have some resistance in terms of just who is the lecturer? And what have they been teaching for the last few years? And are they in the mood for change?

**Megan Roberts 13:41**

And do you potentially have any ideas as to a good selling angle for us to motivate people to be willing to take part in the change process?

**Respondent 14 13:53**

Oh, that's, that's a very tough question. I think. I think if you, you appeal to the inner love for botany, botany is changing. The planet is changing botany is changing how society views botany is changing. So, I think it's about being more inclusive, instead of being exclusive. So, I think in the past, botany was quite an exclusive subject a lot of sciences were, but now we have the potential to grab people's imagination to grab them motivation, and to change some aspects of society through our first-year students, and that's quite exciting. So, I think they should be, you should appeal to the love for the subject, and ask them to share that love with other people in in new ways.

**Megan Roberts 14:56**

I like that that's definitely one of the nicer answers I've gotten for that question, my final question to you is, how important do you think hands on practical sessions are?

**Respondent 14 15:13**

I think they are absolutely paramount to the first-year curriculum. To be able to hold plants, identify plants, run experiments with plants, again, it depending on how you do it, it may, it may spark a dramatic increase in passion and interest in plant sciences. And you need to keep that going in order to get students to commit to that particular subject as they get to honors and masters. You know we find that field trips are so valuable, because you get students out into the natural environment. And you ask them to see things in different ways. And so, so, practical sessions are definitely vital to the curriculum. In order to gain those competencies, you can't gain a competency like microscope skills, if you don't have a microscope in front of you. And if you don’t want to use it, you can't appreciate the amount of time a scientist will spend in the field if you are not in the field as well, doing what they would be doing. And also, it gives students an opportunity to understand where their comfort and passion lies. Does it lie in the laboratory? Doing genetics, extractions, PCR? Is that where you want to see where you see yourself? Do you see yourself behind the computer doing modeling? Or do you see yourself in the field collecting plants and collecting data? So practical sessions, I think allow students to understand where they're where their zone really lies.

**Megan Roberts 17:06**

Do you have any suggestions as to pracs that we could potentially run? Or skills that you think are particularly important for the first year should have?

**Respondent 14 17:21**

Yeah, so we've been talking about this, especially with COVID-19, and the impact on the year 2021. And we've identified microscope skills as being one of the more important competencies as well as the collection and interpretation of data. And I also see you had under question five, quantitative competency. And that's also quite important. So, we've grouped together the process of science, the quantitative competency, and the interpretation of data into the whole scientific method. So, we find, we're going to use that as well as the microscope skills as some of our practicals to start off in the in the first semester. And then in the second semester with ecology, your field practicals are very important. So, measuring the density of plants, measuring the biomass of plants, understanding interactions between plants, and plants, and plants and animals. All of that can come from fieldwork and field observations. So, I would say those are some of your important practicals.

**Megan Roberts 18:37**

Okay, um, thank you. That's all that I have from my side. Do you have any other questions for me or anything that you'd like to add?

**Respondent 14 18:53**

No, I am not sure if I remember reading it. But will, will this become available to the participants and I'm once the process is complete? Yes. Okay, great. Yeah, I think I think different universities can learn from it. And it will result in us not repeating such an exercise. So, I think we could find it quite useful from a first year point of view.

**Megan Roberts 19:22**

Yeah, it will, it will become available to you.

**Respondent 14 19:25**

That's great. Yeah.

**Megan Roberts 19:28**

Okay, um, like I said, that's all that I have from my side. Thank you very much, again, for participating. I really do appreciate it.

**Respondent 14 19:39**

Oh, no, it's a great pleasure and all the best for your degree.

**Megan Roberts 19:42**

Thank you. So