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CREATORS: Olusegun Oyedele and Sajni Lacey
CONTRIBUTORS: Karin Haug, Arielle Lomness, Larissa Macklem, Trevor Neill, Michelle Tinling, and Mathew Vis-Dunbar
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SPEAKERS:

[SL]: Sajni Lacey
[SO]: Segun Oyedele

[0:00]

[Music Intro]
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[SL] This is Sajni Lacey, and you're listening to Frequencies, a podcast from the Library at UBC Okanagan.

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[SL] Today we'll be speaking with Segun Oyedele, Anatomy Instructor and Course Director with the Southern Medical Program at UBC Okanagan.

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[SL] Hi everyone, I'm Sajni Lacey, the Learning & Curriculum Support Librarian here at UBC Okanagan and I'm sitting here with Dr. Segun Oyedele who is the Basic Science Instructor with the Southern Medical Program with UBC's Faculty of Medicine. So, I thought we'd get started by maybe you could just tell me a little bit about what it is that you do in the classroom, and maybe a little bit about the case-based learning program that you're currently working with.

[SO] Yes, so my basic responsibility is the anatomy curriculum which comprises four major areas, which are neuroanatomy, gross anatomy, embryology, and histology. And, through that curriculum we introduce the human body to the students, both at a gross level that is the human body as you see it, but also at more intricate basic levels, so microscopically, as well as in terms of the different dynamic concepts that make the body function as a whole or integral unit. We're bringing sometimes very complex concepts, you know, how the kidney functions, how the brain functions, how the heart functions at different levels, and we're making these concepts, bringing these concepts to be intelligible to the student so they can understand the concepts, not only for themselves professionally, but also post-graduation hopefully to be able to explain these concepts to patients.

[SL] So, it's not just about them memorizing the concepts and understanding how it works, they have to apply it too.

[SO] Absolutely, absolutely. That's in fact, if there's one thing we've struggled with over the years is to be able to help our students not to be superficial learners, but

to be deep learners, because learning superficially just means you've memorized all the stuff. And they've had enough of that in their undergrad studies. We find that students are very good what you call, exam takers, because they are able to remember everything because they memorize the stuff and in medicine this will not work. It won't work just to be able to memorize stuff because there are too many things to memorize.

[SL] So, just to be clear, your students that you're seeing are relatively fresh out of their undergraduate degrees?

[SO] Yes.

[SL] So there is a lot, and I'm also assuming that, you know in medical science that there is no textbook case that happens in the real world, so they have to be able to think critically in order to kind of apply that surface level knowledge in a more critical way to actually find a diagnosis or a solution.

[SO] Absolutely, it may sound cliché, but this is what, it's actually a mantra that we tell the students. We tell them, "Treat your patient and not the case". You know, what that means - we need you to look at the patient sitting in front of you in terms of their psychosocial experiences, their background, their communities where they came from, the families where they are situated, and the things that are going on around them, and not just the textbook case that you think "Oh, this is diabetes". You know, so you're not treating diabetes, you're treating the patient sitting in front of you.

[SL] So how do you approach that in the classroom? Like how do you start teaching those kinds of more abstract concepts to them when they've been very focused on basic, kind of, hard data?

[SO] Absolutely, that's a great question [laughter], and it's a million dollar question because it's what we we're still learning as educators we're still actually learning to do this, and we're trying to perfect it and make it better every single time that we teach students. So, how do we do this. So we do that in large group sessions, we do it in small group sessions, in the lectures, and I can go into what the strategies I'm trying to use, but in the sessions we have tried to get our lecturers to standardize their approach and the format to lectures and then in the small group sessions we approach it by giving the student's cases that they then as a group approach those cases with the help of a tutorial or a tutor in the group, help

them to see those cases, answer the questions that are attached to those cases and think outside the box in terms of helping solve those problems.

[5:05]

[SL] How do you teach the scientific principles in a way that the students understand and can engage and communicate back professionally or to patients?

[SO] So, one area for example, maybe if I use a concrete example, because I teach embryology. Embryology is a fascinating subject and it's the study of the development of a human embryo from conception to full-term or to birth. And there are very intricate systems, some very intricate processes that go on in the embryo, as you can think, apart from the fact that the embryo from conception is barely the size of a pin-head [laughter], you know, to when the embryo then develops to five pounds or four pounds, or whatever it is a birth, you know, and so as I said to use a concrete example, one thing that I teach the students is that the embryo starts out as a flat disc, okay, so like you can imagine a book or a piece of paper, okay, as a flat disc. So, how do I convey that? From that flat disc shape, the embryo has to fold into a three-dimensional or even four-dimensional structure into what we see at birth. How do I transmit that to my students? Alright, so I try to use diagrams first and foremost, but again a diagram is limited because again that's a two-dimensional surface that you're representing these structures on. Then I use videos or animations. That introduces another complexity, a different level of sensory or modality to the students to be able to at least imagine what that would look like, where you show something that is transforming from a flat surface suddenly becomes a tubular structure, you know, so I use videos and animations to do that. And I'm also trying to develop some in-house tools myself. I'm working, trying to work right now, it's in the very early stages, you know, I'm trying to work with a student, actually a UBCO student here, who is very gifted in making animations, you know, so I'm trying to develop my own in-house animation, because some of the tools that are available are either not suitable for my use or they're too expensive, well you know they are requiring buying licenses which are astronomical. And so, I'm very excited to be able to try that, you know, where we transition from just using diagrams, pictures, three-dimensional videos, as well as animations, some of which hopefully in the next year or so will become, will be in-house, will be made in-house, will be developed by myself. The other thing that I use sometimes are models, so, it's, I bring, and they're in-expensive models, so I bring cardboards into the class [laughter] where I show them three different cardboards because the embryo starts, it starts in three, well for the purpose of my talk to you I don't want to go into too many

technical details, starts in three layers, so what we call an ectoderm, a mesoderm, and an endoderm. So I bring three different coloured cardboards to the class, and I say “You see, so the embryo starts like this”, and I hold the cardboard flat, and then I say gradually, so I hold the edges, and I bring the edges together, you know to show how the embryo gradually folds, you know to become tubular, while still maintaining the integrity of those three layers. And some, I mean it’s a eureka moment for students, when you can almost hear the gasp go through the classroom, when they suddenly get it, say “Ah ya, that makes sense,” So, ya I use those combination of tools to help students grasp those fairly technical concepts and hopefully to be something they can remember and also help them explain to their patients in future.

[SL] Ah, cause when I’m thinking about it, it’s like you probably have to get to such a minute amount of detail about different systems in the body. But then, at the same time it has to be extrapolated to this body as a whole piece.

[SO] Yes. So that’s, uh, you’re asking great questions [laughter], you know because that’s what we’re grappling with in the medical curriculum, because especially these days there is so much knowledge. Alright, from the day when I graduated or qualified as a doctor, you know these days there’s things like gene therapy available. There’s information, you know, so many systems that have to be involved and all, even the traditional therapies like surgery, they’re evolving, you know. Laparoscopy was just in its, was just starting out, when I graduated, now we could have like our laparoscopy surgery for so many conditions, alright. Interventional radiologies, is a great field. That wasn’t really developed when I graduated. So these days each specialty is expanding, knowledge has so much expanded. And you’re right, so the kind of details that the student would need to know is huge. So, how do you manage that? By doing what we call spiralling. That’s another language of the new curriculum, where we start with the simple concepts alright, say in first year we teach them about the simple concepts. Then in second year, we bring out the same topic in greater complexity. And in third year, we touch upon it again in even more complexity, so you can see how that same topic can spiral, that’s the language we use from first year to fourth year in ever increasing complexity. And even that is a first attempt to create what we call a basic medical graduate who is able to appreciate medicine and be able to treat the undifferentiated patient, in other words I see it a patient in front of me, I’m able to know what’s wrong, and I’m able to initiate the first treatment and then send the patient off if I’m not able to… if whatever the condition the patient came with is not something I can fully deal with, then I’m able to refer the patient for more specialized care. So, that’s the level at which we hope our physicians will

be, our students will be when they graduate. But that's actually just the beginning, because then they go into their specialties and where even they specialize on even more detail, but this time in a narrow field of their specialties. So, we're not trying to teach the student everything, it's not possible that the student will know everything about everything. However, we feel that they will be able to know a lot about many things is sufficient for them to be able to treat, at least handle or manage a patient, save a patient from dying, any patient that they encounter after graduation and hopefully refer for more specialized care. I hope that answers your question.

[12:30]

[SL] That does answer my question, cause then when I'm thinking about it I'm thinking in like library science terms it's scaffolding the curriculum - right, like you're trying to, cause we try and do that all the time.

[SO] Yes.

[SL] And, so the same thing with your students is you want them to have this base knowledge of core content and you want them to have these soft skills, but you also want them to be able to take all those pieces and then when they're in the field practicing medicine in whatever capacity, they also can recognize what they don't know…

[SO] Absolutely!

[SL] … because they know there's information, it's not just they don't know so they don't know they don't know…

[SO] Yes.

[SL] … but it's like there's a gap there and I need to refer to a specialist or I need to consult something or I need to talk to a colleague or something so that you give the patient the best level of care rather than just kind of managing.

[SO] Absolutely. I think you're answering my question for me [laughter] because that's what we actually tell them, you know it's, again, it's a feature of our new curriculum where we tell the students the basis, especially this comes up more in the case-based learning sessions where we tell the students, "This session, initially you may feel a lot uncomfortable when you first encounter this case,

because it will remind you of a lot of things you don't know, alright, but that is actually the trick, that's the purpose of the session, it's for you to move from okay these are the things I don't know, to be able to identify accurately what you don't know and then take the steps. Either to acquire more information or to find the resources, so your classmate may be a good resource for you because they've had an undergraduate in that field, you know, of science for example. Or you may ask the librarian, alright, hopefully you know, or find a colleague, or someone, or a textbook". So, it's a centerpiece of the medical program to be able to tell the students we present information for you, yes that's great, but actually our aim is for you to be able to help you identify gaps in your knowledge, and find ways to fill those gaps, to help you in managing your patients.

[14:36]

[SL] How do you assess the science literacy and information literacy that you've tried to convey to your students?

[SO] It's hard. It's absolutely hard. And we recognize that, and with the new curriculum we have several levels of assessment, okay, which tries to tackle this, find a solution to them. So, for the pure scientific facts, that's easier to assess because then you can give the students a multiple choice exam, multiple choice question exam, in terms of just to recall a fact but also those multiple choice exams are being kind of revamped to target not just recall of facts but also integration, alright, so more and more the assessment questions are presenting scenarios to students, alright, so that in other words, trying to mimic real life situations. So the questions are not just "where is the liver in the body?" [laughter] or "what does this structure do?" but you're presented with "a patient comes in with a headache of four days duration and they're now complaining of loss of vision" and then the questions are based on that. So, immediately you're called on to integrate how is headache related to loss of vision, in what different ways might headache be related to loss of vision? And so, more and more we're trying to find those kinds of questions that help students integrate across the different specialties and across the different fields that they study. But also to address the softer skills, we have sort of multiple choice questions are just the one aspect, one assessment modality. We now have clinical skills modality where students take clinical skills exams where they're presented with simulated patients and then the patient comes with a story of what's wrong with them, and then the scenario asks them to either take more information from the patient, or to examine the patient, or to put two and two together, or ask them "okay what kind of labs are you now going to order." Alright, so again, that's a different level of assessment, alright. So, I've

talked about multiple choice questions, I've talked of clinical exams, but then we also have what we call a portfolio exam or portfolio assessment, where students are told to write reflection pieces about the different aspects of their training alright so, and this is proven to be really, really helpful. Where students give feedback that it really helped them to think about things that they had never really thought about as students, you know, in terms of what the patient is feeling, you know. What's going on in the patient's life? You know, how an off comment from a doctor might actually be very significant for the patient. [laughter] So ya, so they are now learning to integrate, at even that level, in terms of those softer skills. So ya, hopefully, I think it's hard work. You know, it's really hard work to communicate science. And it's something that, you know, cause my degree, I trained as a medical doctor, but then following that I opted to go further to do a doctoral in a hardcore science area and, you know, doctors don't think about it a lot, but now we are being forced to think about it in the sense that being an expert at something doesn't necessarily make you a good communicator of that thing, you know. In a way, you really have to be taught how to communicate that, you know, to students. And that's why I'm so grateful that UBC has the educator stream of faculty, where there are educators like myself who's full time job is actually learning those skills. How to communicate these things to students. We're actually getting graduate students now. The other day, one of my, well I say my [laughter] you know, because I'm proud of him, one of our graduates from the Southern Medical Program wrote me and said that he is considering to take a specialty, as part of a combo of specialties, he's training to be an emergency physician. One of the things that he is going to take as part of that is medical education. He also wants to train in, ya, in medical education, so and he was asking me whether he can come in to observe our case-based learning, and actually participate in it as well. So, I'm really happy that we're actually winning. Our students are graduates now, are actually trying to come back to learn the tools of communicating this science and medicine to patients, and teaching others as well.

[20:00]

[SL] Okay, so that wraps up our time here. I just want to say thank you so much for taking some time with us. It was fascinating. And I think we all learned a lot.

[SO] Thank you, it's been a pleasure.

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[SL] You've been listening to Frequencies, a podcast from the Library at UBC Okanagan. Your host today was Sajni Lacey. Editing by Karin Haug, Larissa Macklem, and Mathew Vis-Dunbar. Music by Trevor Neill. Artwork by Alison Ward. Additional support provided by Michelle Tinling and Arielle Lomness. Thank you for listening.

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