Transcript

Episode 135

The Uncertainty Effect with Michelle Lazarus

The A&P Professor Podcast

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Contents

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Introduction

Kevin Patton (00:00):

Physicist and science communicator Richard Feynman stated, "I can live with doubt and uncertainty and not knowing. I think it is much more interesting to live not knowing than to have answers that might be wrong."

Aileen Park (00:19):

Welcome to The A&P Professor. A few minutes to focus on teaching human anatomy and physiology with a veteran educator and teaching mentor, your host, Kevin Patton.

Kevin Patton (00:34):

In this episode, Dr. Michelle Lazarus is here to talk about her new book about uncertainty and why A&P professors need to be mindful of it.

Dr. Michelle Lazarus

Kevin Patton (00:51):

This episode is about uncertainty, something that exists, and as I'm finding out, something I need to learn to tolerate way better than I sometimes do. Take, for example, being all set up for an interview with a popular A&P Professor and all around lovely person, Michelle Lazarus, who lives way on the other end of the world from me and in a time zone way out of sync with my own time zone. And then yikes, the time comes and my voice goes a bit out of whack from some nasty virus, and it's still a bit wonky now as I record this a week later. After pushing ahead with what turned out to be a great recorded chat, then yep, theAPprofessor.org website went blank and even my IT people don't know how to fix it. As I record this, it's still just a blank white page.

(01:57):

So yeah, some uncertainty going on right now in my head and in my heart. And then the COVID fairy visits our household, then wave after wave of other worst calamities visit our family. So yeah, this episode is way later than the usual schedule of episodes I like to keep. But as my guest advised me when we recorded these segments, that's not my priority. My family is my priority, and so I've been tending to my family, putting off my website and podcast. Well, there's a bit of a lull in the calamities right now, thank goodness. So yeah, here's the episode and one of my favorites so far, and we'll just have to wait and see what comes next. Our special guest for this one is, as I just

mentioned, Michelle D. Lazarus, who holds a PhD and a senior fellowship of the Higher Education Academy. She's an associate professor and director of the Center for Human Anatomy Education in the Biomedical Discovery Institute, Faculty of Medicine, Nursing and Health Sciences at Monash University in Victoria, Australia.

(03:20):

As a leader in the Monash Center for Scholarship and Health Education, her research focuses on understanding how education impacts healthcare workforce professional identity with emphasis on building a workforce who can effectively manage uncertainty. Michelle is an award-winning educator, having received the Australian University's Teaching Excellence Award, as well as the Monash Vice Chancellor's and Dean's Award for Teaching Excellence among other awards. If you're already familiar with Michelle's many professional activities, you know that she supports development and delivery of high quality education in diverse learning contexts, both nationally and internationally, working in consultation with secondary school teachers, caregivers, tertiary educators, and the clinical workforce.

(04:18):

The thing that gave me the nudge to invite her to this podcast now is that she's the author of the upcoming book, The Uncertainty Effect: How to Survive and Thrive Through the Unexpected. Now, this new book adds to her work on uncertainty that appears regularly in research publications and in the media. She has said that her entire career is a journey into uncertainty. Well, you know what? Let's join her on that journey and find out what she has to share with us.

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Kevin Patton (04:57):

A searchable transcript and a caption audiogram of this episode are funded by AAA, the American Association for Anatomy. One of my favorite resources from AAA is their journal for teaching and learning anatomy and physiology called Anatomical Sciences Education or ASE, which we discussed with their editor in chief, Jason Oregon in episode 135. Check out ASE anatomy.org.

Why Is Uncertainty Important?

Kevin Patton (05:32):

So hi Michelle. Thank you so much for being with me today to talk about uncertainty and your book about uncertainty and what you've learned about uncertainty. So welcome to our podcast.

Michelle Lazarus (05:46):

Thank you so much for the invitation and for the opportunity to chat with you.

Kevin Patton (05:51):

Well, I guess I just want to jump right into it. I've been really anxious to talk to you about this topic. I'm very curious about your curiosity about uncertainty. I mean, all I've listened and read on social media and in things you've published and so on, I mean, you seem like a very curious person to begin with. So you've been curious about uncertainty, what is it about uncertainty that interests you and got you started in looking into it more?

Michelle Lazarus (06:26):

That's a great question and one that I'm starting to get a sense of irony about actually. Talking with colleagues, a few of them have pointed out how ironic they think it is that an anatomy educator is researching uncertainty because there seems to be this pervasive view that anatomy knowledge is known and knowable. And if you don't learn all of Gray's Anatomy for instance, there's going to be really significant negative impacts for patients in the healthcare environment. It's interesting because yes, anatomy is know... There is a body of knowledge and anatomy, but how it gets used in a clinic is actually filled with a great deal of uncertainty. So one example I highlight is from a 1970s police TV show, and one of the cops is shot with a bullet and a surgeon has to make a decision.

(07:26):

They are very clear where the bullet is. It's in the IVC supposedly in this TV show. So the anatomy is certain, but whether or not they do the surgery is filled with uncertainty. They could leave the bullet and it dislodges and causes a bleed out, or they could do the surgery, which causes a bleed out. So there's whether to do it or not, even if the anatomy is stable, the healthcare application of it is uncertain. And so that's really how we came to be interested in the topic was we did education research and found we were not doing a great job at helping students manage that future uncertain application of anatomy. The example I use is I would almost every time walk into lab and say, "Oh, you need to know this structure because if you don't know it, something horrible is going to happen to your patient." So that's really how we got involved in doing research into

this was that we weren't doing a good job of helping these students prepare for their future of using this knowledge in an uncertain complex healthcare environment.

Kevin Patton (08:34):

Wow, okay. That's not what I would've thought the answer would be is how you got started, but that makes perfect sense. I mean, there is all of that uncertainty in healthcare, I mean, at so many levels. And so if you can start to help students prepare for that early in their training or actually get it into their training period, that's going to be helpful. I mean, that tells me partly why I as an A&P educator, why I would want to be interested in uncertainty.

Michelle Lazarus (09:10):

Yep.

Kevin Patton (09:11):

What else can you tell me about why I should be interested in uncertainty? What can that do for me as an educator?

Michelle Lazarus (09:23):

Great question. So can I ask a follow up question with my own curiosity now?

Kevin Patton (09:27):

Sure.

Michelle Lazarus (09:29):

What did you think my answer would be when you said it was surprising? I'm super interested in how you thought I got involved with it.

Kevin Patton (09:37):

Well, I didn't know how you got involved with it, but it didn't occur to me that... I thought it was just like, I don't know, like an interest of yours maybe in dealing with uncertainty in your own academic life. Because we know that in academia, every aspect of academia, there's a lot of uncertainty. I was just thinking this morning, I'm an adjunct at two different schools and for one of them especially, I'm thinking, "Is my course that starts next week really going to happen or not?" I don't have enough

students right now, so I'm uncertain about whether I'll get more students in there or whether they'll let it run with a low number of students. And there's so many other kinds of uncertainty. I mean, every time you walk into a classroom-

Michelle Lazarus (10:28):

Absolutely.

Kevin Patton (10:29):

... there's the uncertainty of what's going to happen today. And the more your lesson plan is designed around inquiry and so on, the less certain of the results you're going to be. It's like this could go really good or really bad today, we don't know when you get a new group of students and so on. So I was thinking more from that end of things. It didn't really occur to me that our students are going to be facing the kind of uncertainty you just described when they get into their clinical situations.

Michelle Lazarus (11:03):

I think that's super helpful context. Actually, to answer the second question as well, and you really hit the nail on the head, is that once we started down this path inspired by our students, we started realizing... I definitely started realizing that as you say, uncertainty is everywhere and the lessons we started learning about how to cultivate it and help students manage it was actually super useful for me as an educator as well, and those staff who also teach. So I think you are very insightful and I'm glad I asked the question because I think that will help me answer the second question, which is about an educator. And as you touched upon, especially with your role as an adjunct, you're really facing--I'm guessing, so correct me if I'm wrong--two very different context environments in which you need to teach students are likely different, the rules, regulations, the ethos of the universities are different. Is that your experience?

Kevin Patton (12:05):

Yeah, it is. I mean, one of my adjunct positions is to teach pre-A&P at community college. And so these are students who haven't even had A&P yet. They're beginning beginners. And then in my other school I teach, it's in a graduate program that trains people to teach anatomy and physiology courses. And so these are at the other end of the spectrum, or at least nearer the other end of the spectrum. I mean, in many ways they're very different from each other. So really I'm finding myself having to switch gears a lot, even within an hour or two going back and forth, because these are both online exactly courses that I'm dealing with.

Michelle Lazarus (12:52):

And I think that's it. That's the experience that we've seen in our students, and then we've also interviewed academics and professionals across a variety of different fields. The book goes even broader, meaning I draw on other people's research in addition to our own, and what we find is emulated in what you just described. So the more the variability of the context, the more uncertainty is introduced. Central across everything seems to be the sources of uncertainty, and then the people that need to manage it are humans. So our diversity in how we respond, think, interpret, perceive the world introduces uncertainties, and then it's left to us to determine how we want to respond to those uncertainties. And I think for an educator, it's really challenging because if you picture that the humans are the source of uncertainty, you're a human teaching, you're teaching a lot of other humans, they're interacting with each other as humans.

(13:53):

There's a lot of complexity and uncertainty that's introduced there. We don't know whether the students are really accepting and understanding what we intend to teach. We don't know to what extent their outside experiences influences their in-classroom experiences. For instance, there's a lot about equity and inclusion and teaching and how we can't understand if somebody is working full-time in addition to learning classes, how we manage that. So there's a lot of uncertainty in individual teaching environment. And then you add to it, Kevin, what you described about that first day you're about to start classes, whether or not you're going to have them, what the students are going to be like. So on a regular day in teaching, there's uncertainty. On the first day, there's even more uncertainty. And what we've noticed from some of our research really led by Georgie Stephens, a PhD student who's just graduated.

(14:53):

She really looked at how students manage uncertainty, and what we found that differs from the professionals who manage uncertainty, which was more of the research that I've recently led and that others have led, is that the sources of uncertainty for a student are expansive. They're almost uncountable. You cannot count how extensive the sources of uncertainty are for a learner because the knowledge is uncertain, the experience is uncertain, where to go to get the support is uncertain. Everything about their world is uncertain, and especially on a first day of class. So for you and I where we have experienced teaching, yes, that first day is going to be uncertain because there are factors that we can't control. We can't know about who the class is going to be, whether the class is going to happen, but because we have that experience to draw on, the sources of uncertainty are a little bit narrower for us typically.

(15:52):

So for a student who's literally never experienced this environment, or for a brand new teacher, you're going to have a much broader number of sources of uncertainty. So if we picture uncertainty as, I don't know, an ocean for a student or for a first year teacher, it's rough out there. You're just trying to keep afloat. I think I also touched upon this in the book, asking those people in these really rough seas, "Oh, here's some more uncertainty. Just learn to manage it or just accept it." Is unreasonable because they're just doing enough to not drown, if that makes sense.

Kevin Patton (16:32):

Yeah, it makes perfect sense.

Michelle Lazarus (16:35):

And so on a first day of class, what I wouldn't do is introduce more uncertainty purposefully in the classroom. I just feel like that's cruel and unusual punishment because they're already drowning. So I do take that into consideration where they are in the curriculum with how much uncertainty I introduced to students, and I think we should be doing that also to professional educators as well.

Kevin Patton (16:56):

Yeah. Wow, that makes sense. We're going to pick up this line of discussion after this short break.

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(17:06):

The free distribution of this podcast is sponsored by the Master of Science and Human Anatomy & Physiology Instruction--the HAPI degree. As faculty in this program at Northeast College of Health Sciences, I get to be involved right alongside our learners as they increase their success in using evidence-based teaching strategies to teach all the major topics in the typical anatomy and physiology course. Check out this online graduate program at northeastcollege.edu/hapi. That's HAPI. Or click the link in the show notes or episode page.

The Uncertainty of Teaching A&P

Kevin Patton (17:50):

I am here with Dr. Michelle Lazarus, and we were just talking about being thoughtful when introducing or revealing uncertainty to our students, especially at the very beginning of our course. I mean, you really hit on something that I've been very aware of, I guess, for a number of years teaching in the program that trains anatomy and physiology faculty. This is something that comes up a lot in our discussions, especially among those who have never taught before. We usually get a mix, thankfully, we get a mix of people who some have taught for a long time and they're coming back for various reasons to fill in the blanks in their background or just get more training in how to teach it, rather. They may have great expertise in the content, but not necessarily in some of the teaching strategies.

(18:41):

So we have those, but we also have some people who have never taught before and are very anxious about that. I mean, to them, uncertainty is the primary feeling that they have, especially toward the end of the program. I mean, they're just like, "What am I going to do now?" I mean, I think they feel safe in the courses in our program and in the experiences we give them and being instructors, but now they're going to go out into the real world and teach, and they express this a lot. So what kind of advice do you think someone like me or someone who's mentoring a new teacher in their department or a graduate students who are teaching for the first time, what can we do for them? Not necessarily advice, maybe there is some advice we can give them, but what are some things we can do to be supportive or to create an environment or do our best to create an environment where they can handle that uncertainty?

Michelle Lazarus (19:37):

That's a great question, and it reminds me of one of the key messages I took away from writing the book, which is--and I will start with this big asterisks--one size doesn't fit all typically. So I will offer this advice aware that what you decide to implement is definitely dependent on your unique context, the environment, the types of teachers you have there. So I think what I noticed throughout writing the book and each sector I looked at was there seemed to be this belief that if you just make everything uniform enough, you can remove uncertainty from a complex world. And the reality is time and again, that actually introduces new uncertainties and doesn't solve the problem of the other ones and makes things actually inequitable because we're all very different. Humans are complex, we're unique, and by making everything uniform, the question becomes

uniform to who and who gets left to the margins. So I will put that huge, huge asterisk next to what I'm about to say.

(20:44):

I think the other thing I want to highlight before I get into specifics is that tied to this is that when we're supporting these educators and the students and the population in general, is that there seems to be this belief that uncertainty is equivalent and synonymous with risk. And so if you consider these teachers, they're about to go into their profession. This is their identity, this is their professional identity, this is how they're going to earn a living, that's a high risk situation. And we as a species seem to almost be pre-programmed to want to suppress that level of uncertainty when it puts to risk our roles, our identities, and our livelihoods. So it makes sense that they're fearful in these contexts of uncertainty. I want to explain that a little bit. And then it turns out some believe that just with experience, you'll learn to manage uncertainty.

(21:40):

But I know plenty of people who are very experienced teachers who when we put them in team-based learning or something which introduces additional uncertainties, like you can't know how the class is going to run, they are not into it because of the uncertainty. So I would also add that general experience or professional experiences, your discipline does not necessarily equate to developing uncertainty tolerant. So uncertainty tolerance, it's a good opportunity to define it. It is not just accepting that the world is complex in uncertainty and just sitting there with that. That I would argue is uncertainty intolerant because you're not making a decision. You're not taking action despite uncertainty being present. So uncertainty tolerance is when we take the knowledge that we can have, we acknowledge the fact that uncertainty is present no matter what we do, and we still make a decision about the next best step. So that would be an uncertainty tolerant action.

(22:41):

So with that, one of the key things that I think we can do with those who are more novices, or just getting started, or even those with more experience who are less tolerant of uncertainty, is to create, and this is the backdrop I would say is absolutely critical, a psychologically safe environment where it's okay to speak up about uncertainty. It's comforting, it's not frowned upon. If we create a cutthroat environment where someone can't say, "I'm not sure about this. I tried this and it still didn't work." It's not a safe environment to practice uncertainty tolerance, I would argue. So I think psychological safety is the first thing. The second thing is just a simple, and Georgie found this from her research and students, and I would carry this over into any environment. I've now seen this with our staff, is an orientation, something very simple.

(23:35):

This is where the bathrooms are. This is who do you go to if you have a question. This is where if people took a day or two and provided an orientation and basically remove the extraneous uncertainties that a person new to a role doesn't need to think about, they can focus more adaptively to the uncertainties that we can't control, we can't suppress. So I think an orientation could be really helpful. And then two other pieces I would suggest is maybe intellectual candor. So this is a theory presented by a couple colleagues at Uni Melbourne, and I can provide you with the resource to read more about this. Is the idea that if you are supervising this novice person, you've given them an orientation, you've created a psychologically safe environment so they can speak up about uncertainty, ask questions, try things without fear of retribution, that if they also say, "I'm struggling, I'm speaking up about uncertainty."

(24:34):

And you as the experienced educator who's supervising them says, "Oh, I struggled through that too." And explain that you as an expert also how have to manage uncertainty and then describe steps you took to manage that uncertainty, you can help the novice also learn to be more tolerant of uncertainty. And then the final recommendation, I guess I would share, which was present across every single study we looked at, and the wider literature is that critical reflective practice. So if the novice teacher does a critical reflection about what they thought, felt and did in the face of a recent uncertainty and then how they would change things moving forward, they can almost change. It's almost like cognitive behavioral therapy, you can almost change that negative, typically extremely negative experience of uncertainty when the risk is high--which when it's your job, it kind of is--from one that is more fearful to one that's more curious.

(25:40):

I guess I do have one more piece of advice actually. The final one would be for the educator themselves, the novice educator just starting out, or the experienced educator working on their uncertainty tolerance. And that is instead of predicting how that classroom's going to run, because the literature seems to be ripe with studies about how we're terrible at predicting uncertainty, we usually think it's going to be something really bad. If we don't know the outcome, we seem to predict that it will be an extraordinarily negative experience.

Kevin Patton (26:13):

Right. Right.

Michelle Lazarus (26:14):

So instead of going, "Oh, I think this is what my classroom's going to be like, if I do this activity." I would encourage people to be curious. I wonder what today is going to present. I'm going to take this approach, I wonder how the students are going to respond. And by not forcing ourselves into prediction and in maintaining that curiosity, we can sometimes temper some of that negative emotional response we tend to have in the face of uncertainty. So I think those are a summary of some key steps we can draw upon depending on the unique context we work in.

Kevin Patton (26:49):

Yeah, wow. Those sound like all great ideas and I can see-

Michelle Lazarus (26:53):

Oh, good.

Kevin Patton (26:54):

... how they could be effective. Yeah. I'll be back with even more insights about uncertainty from Michelle Lazarus after this brief sponsor message.

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Kevin Patton (27:07):

Marketing support for this podcast is provided by HAPS, the human Anatomy & Physiology Society, promoting excellence in the teaching of human anatomy and physiology through its many resources and activities. I'm looking forward to the annual HAPS conference in Albuquerque, New Mexico this spring where I'll be part of a workshop in which several A&P textbook authors will share our experiences revising our books while being mindful and effortful regarding diversity, equity, and inclusion. It promises to be, well, yeah, a pretty lively dialogue, but it's scheduled for the last day of the conference, so make sure that you register for the entire event. For details, go to theAPprofessor.org/haps. That's H-A-P-S.

Uncertainty and Inclusion

Kevin Patton (28:04):

Okay, earlier in our chat, you mentioned that there's this element of inclusion that we ought to consider when thinking about uncertainty, and I'm not sure what you mean by that or how that plays out. So what is that relationship between a person's feeling included in the group and their level of uncertainty?

Michelle Lazarus (28:26):

It's a fantastic question, Kevin, and it's interesting because I had to follow my own uncertainty really to explore this further. So I draw on and was grateful to be able to collaborate with a variety of people on this topic, including Gabe Garcia Ochoa, Mandy Truong, and Gabby Brand on the topic, each coming from different expertise, discipline backgrounds and such. And it turns out, if we think about it, it makes sense in hindsight, I guess, that if we've grown up in one culture and then we move to another one or we experience one different than us, that there's a lot of uncertainty there. So we don't have experience in that other culture and in that response, what we choose to do when faced with somebody different than us or who has a different experience than us, and I would argue that's everybody, right? Nobody lives the same life.

Kevin Patton (29:26):

Sure.

Michelle Lazarus (29:26):

That we can be behave more uncertainty intolerant, where we sort of deny them their individuality and we see them only through our own lens of experiences, or we can do what I describe for teachers and be curious. I wonder what's different about them, I wonder what I could learn from them, and that sort of approach. There's a theory called the spectrum of intercultural sensitivity, and that it sort of explains our diverse responses to this type of uncertainty when we encountered those different from us or unfamiliar cultures. There's two extreme ends of this, including ethnocentrism and ethnorelativism. So ethnocentrism is when I, who was born in America, the US, and encountered the Australian culture when I moved here, I could have come here and said, "Oh, the Australians, this language they speak, these idioms they say, it's incorrect. The US English is correct, et cetera." So that's ethnocentrism. I'm viewing the Australian culture and language through the lens of the US culture only. At the other end is ethnorelativism.

(30:41):

So ethnorelativism is the idea that you are viewing the culture almost with curiosity. You're sort of saying, "I don't know much about this." But you're not placing a value judgment on what that other culture that you're unfamiliar with is doing or saying or acting. With this, our uncertainty tolerance seems to influence our affiliation with one end or the other. So no matter how much you learn about the other culture, for instance, these are some studies that are starting to reveal that it's actually our uncertainty tolerance that determines whether more ethnocentric or ethnorelative. It sort of makes sense when you think about it in hindsight. In order to be ethnorelative, you have to be curious, you have to be tolerant of uncertainty. When you think about it in that way, it makes sense. Whereas at ethnocentrism on the other end, if you're less tolerant of uncertainty, you may not be able to feel empowered to ask those questions and maintain that curiosity.

(31:39):

Interestingly, there's another theory called uncertainty identity theory, which posits that our own comfort in sitting with that discomfort of who am I in a culture in a society is influenced by our uncertainty tolerance. So I'm going to picture myself coming into my job for the first time in a new culture, new environment, and I was incredibly uncertain. I didn't understand what people were saying around me, there was a different language despite it all being English. I was struggling with the hierarchy, the approach. I had only experienced medical schools, and now I'm in an undergraduate institution. I was feeling a lot of uncertainty about who I was in this new environment and how I fit in. At that point, if I didn't maintain curiosity about learning more about this new culture, if I just felt so uncomfortable that autonomic nervous system response was too extreme for me to manage, I might have just dropped the job and looked for a very comfortable, very familiar, very rigid environment where I knew who I was and knew where I fit in.

(32:47):

So our ability to sort of face a new ebb, a new culture, a new environment, is sort of impacted by our uncertainty tolerance. And the other example I use is if you introduce... You know, in Australia, they introduce this idea of multiculturalism. So by changing who we are as a society in general, you instigate this uncertainty and how we choose to respond to the society as it changes, which is a natural evolution of culture, of society, is based on our uncertainty tolerance. So the more tolerant of that discomfort that comes with the uncertainty the questioning who we are, the more likely we are to be curious in the face of the changing environments of society as we ebb and flow and evolve. The less comfortable we are with that discomfort, the more likely we are to create a rigid group where there's an in-group and an out-group, and we know who we are in this society and we're very rigid about that approach. So you can almost see how some of

the fractions we're seeing across society right now, the different political ideologies, et cetera, may be influenced by the members' own uncertainty tolerance.

Kevin Patton (34:03):

Yeah, I can see that. Glad you explained that, because I just really did not get that connection. But now I do. Now I can see it. And I think that obviously can be applied to other kinds of inclusion other than cultural. For example, I know that something that I've learned a lot about in the last number of years in my own teaching is the great diversity, maybe I should call it neurodiversity, that there is among our students and that is how all the different ways of thinking. That they're not all little Kevins little mini Kevins from undergraduate, they don't think the way I did when I was an undergraduate. They don't approach things that way. Things don't occur to them that occurred to me and vice versa. And it took me a long time as a teacher to really understand that I can't have exactly the same expectations of all my students because they're all different, and I think you alluded to that aspect before too.

Michelle Lazarus (35:04):

Kevin, you were absolutely right. That chapter in the book goes into neurodiversity as well with a case example of how we as society create social norms because of a variety of factors. And I do want to say at this point that it is really important that you read the chapter because my ability to summarize such a complex idea through a few minutes is going to be limited. In there I describe how neurodiversity looking at it through the lens of uncertainty intolerance, we ask those who are neurodiverse to conform to the dominant societal values.

(35:45):

And by doing that, we suppress something that could be a huge advantage and we make those with neurodiversity feel that they are excluded. And that's actually to a disadvantage because as I go on to describe in the book, and to your very earlier question about what can you do to help manage uncertainty, one of the key things that we can do is bring in people who think differently than us. Because complex problems require complex solutions, and by generating a society with rigid boundaries because of a collective uncertainty intolerance, means that we push those that could help us solve these complex problems out to the margins, which doesn't help anyone. So it's a very important point that you bring up, Kevin.

Kevin Patton (36:34):

We'll be back in a moment.

Uncertainty and Risk

Kevin Patton (36:31):

We're running out of time, and I could just talk to you all day about uncertainty and all of what you've learned. I'm very anxious to read your book at the time of recording this. It's not out yet, but it can be pre-ordered. You might want to take a look at your favorite bookseller and see if you can find it. The title of it is The Uncertainty Effect: How to Survive and Thrive Through the Unexpected. And I do have one last question for you-

Michelle Lazarus (37:09):

Of course.

Kevin Patton (37:10):

... and it may be one of those that requires 45 minutes to answer, so feel free to just shorten it if you want. But as you studied uncertainty, was there anything about uncertainty or people's experience of uncertainty or anything that turned out to be surprising to you? Like, "Wow, I didn't realize that."

Michelle Lazarus (37:34):

I think the most surprising for me, it was twofold. One, that in hindsight, so much of it was intuitive. A lot of us naturally are aware of uncertainty as this background hum, which our lives survive on, but people didn't have the language or the experience to sort of weave it all together and to actively be part of thinking of their responses to uncertainty. And the second one that continues to shock me actually, is that the belief that uncertainty and risk are synonymous, the incorrect belief, I would say. They are interrelated, but they are not equivalent and I think because we've treated them frequently as equivalence, we've let ourselves astray with actually being able to adaptively respond to and address uncertainty because we decide that it's better to just try to suppress it instead of be aware of it, acknowledge it, and then address it. And so I think those two things were the most surprising.

Kevin Patton (38:42):

We'll wrap things up next.

Book: The Uncertainty Effect

Kevin Patton (38:48):

I'm very anxious to read your book.

Michelle Lazarus (38:51):

Thank you so much.

Kevin Patton (38:52):

I'm really looking forward to it, and I really appreciate you coming and talking to me about this. I'm going to have links to the things that you mentioned in our episode page so people can take a look at that. And of course, of course, of course this new book will be listed in the A&P Professor Book Club. That means you as a listener can document your reading of and reflection on the book as professional development by applying for digital credential from our education program. This book is a good example of a title that you wouldn't ordinarily see in a list of books for A&P faculty. But as you can tell by our conversation, it's highly relevant to what we do, isn't it? You can find other hidden gems at theAPprofessor.org/bookclub.

Staying Connected

Kevin Patton (39:51):

Wow. A lot of light bulbs lit up for me during my chat with Michelle Lazarus about uncertainty, and I'll bet that happened to you too. We learned about how the uncertainty built into the clinical experiences that our healthcare students will face is what first piqued Michelle's interest in exploring uncertainty. Don't we all need to be mindful of preparing our students to face that kind of uncertainty? Isn't that really part of the whole mindset of science and something that we ought to take into account in our courses? Not only do we face uncertainty in science and medicine, we also face uncertainty in academia. We should be mindful of balancing uncertainty and uniformity in our courses if we want students to develop uncertainty tolerance. We also explored the relationship of uncertainty and various kinds of inclusion in our courses. After that part of the conversation, I think I have a much better understanding and empathy related to inclusion.

(41:07):

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Aileen Park (42:23):

The A&P Professor is hosted by Dr. Kevin Patton, an award-winning professor and textbook author in human anatomy and physiology.

Kevin Patton (42:37):

You probably think that this is the end of the episode. Well, it is.