



# Creating Connections through Multicultural Undergraduate Research

Teaching Beyond the Podium Podcast

## 00:06 Dr. Alexandra Bitton-Bailey

Hello, my name is Alexandra Bitton-Bailey and welcome to the teaching beyond the podium podcast series. This podcast is hosted by the Center for Teaching Excellence at the University of Florida. Our guests share their best tips, strategies, innovations and stories about teaching. Dr. Diba Mani is a faculty member in the College of Health and Human Performance. Once she started teaching, she was sold. And she's been applying herself to creating authentic innovative classroom experiences for her students ever since. One of the experiences that she's created is an undergraduate research experience combined with virtual exchange that allows students to meet and interview the researchers they're reading about.

## 00:50 Dr. Diba Mani

I recognize how important my culture is. I identify as an immigrant, I moved to the US from Sweden with my family when I was seven years old. I identify as an Iranian American. And so of course, culture, multiculturalism has been part of my life forever. And so bringing in virtual exchange or a global education with research seemed the right step.

## 01:15 Dr. Alexandra Bitton-Bailey

Dr. Mani had a rich experience doing human research as an undergraduate student. And that experience shaped her and inspired her to become a researcher and share that love with her students.

## 01:28 Dr. Diba Mani

So when I started off as an undergrad, I was pretty much passed between the Ph.D. students that were in that lab. And I did everything from staring at Excel spreadsheets and moving numbers around to actually assisting with data collection. The lab that I was

involved in throughout my entire undergrad through graduate career was the same one and it involved human research. So we worked with young adults, middle aged and older adults, we also worked with people that had neurological disorders, people with multiple sclerosis versus healthy individuals. So becoming familiar with just that interaction was something else that was that I was lucky to be able to do as an undergrad.

## 02:06 Dr. Alexandra Bitton-Bailey

Not all students have the opportunity to experience lab and research work during their undergraduate studies. So in order to give all students a chance to at least try out conducting research, she designed this research and collaborative learning experience.

## 02:22 Dr. Diba Mani

I can give them a taste of it, and what the research process the scientific process entails by having them go through peer reviewed research papers. And by dissecting these papers in the class of activities that we do, they get a touch of it and if it's something really exciting, they can continue to pursue it, or work to pursue it in whatever comes next. And maybe that convinces them to stay away from academic research. Or maybe it just convinces them that that is what they wanted to do.

## 02:50 Dr. Alexandra Bitton-Bailey

Dr. Mani does not limit the experiential learning activity to simply reading and analyzing the research and articles. Instead, she connects students directly with the original researchers and creators of the work.

## 03:03 Dr. Diba Mani

Just in case just reading and dissecting a paper isn't enough, I have them interview, a researcher, one of those authors that actually wrote the paper that they are dissecting. So most of these folks are people that I know, I have contacted them in advance. So I know that they're going to participate and ignore my students, of course, and the students in their small group are assigned reading dissecting this paper, but then practicing their communication skills, with this researcher based somewhere else around the world to ask for up to 30 minutes of their time in a video, audio interview.

### 03:40 Dr. Alexandra Bitton-Bailey

Students love the ability to see how interconnected the research world is.

### 03:45 Dr. Diba Mani

The students really appreciate the acknowledgement that there is a global scientific community. Everything that we do, whether we verbalize it or not, is based on our global community. So my students aren't interacting with just one country or one classroom. They are interacting in small groups, with researchers from at least you know, 10 to 13 countries around the world. And it's not just the students, I do Qualtrics surveys before and after the experience. And the researchers who I asked, also verbalize that this is a fantastic opportunity not just for the students, but for them too.

### 04:21 Dr. Alexandra Bitton-Bailey

Students are able to directly interact with researchers and truly understand the studies conducted through the eyes of the original research team. This translates into greater understanding and learning gains, as well as boundless enthusiasm.

### 04:37 Dr. Diba Mani

When the students are presenting. You can see the work effort and appreciation they have not just because they put together a set of slides and talked about some research, but because they get to integrate this internationalization throughout their slides. Ah yes, we were looking at the subjects in this study and we found that they only recruited women. So we asked the researcher Why'd you only do this? They can respond in time to concerns or questions they have about a research paper, which I don't think you get in most research opportunities.

### 05:09 Dr. Alexandra Bitton-Bailey

It was a real challenge to find enough international research collaborators to interact with their students. But Diba discovered a fantastic way of going about it.

### 05:19 Dr. Diba Mani

I was told to double my sections. So instead of having 50 students in one section, I would now have 50 students in two sections. And I just didn't know enough people from

across the globe that published papers on topics relevant to neuromuscular aspects of exercise, the class that we're talking about. And I genuinely had to reach out to the different associations and organizations that I'm involved in. And luckily, they're very supportive of this type of effort. So I reached out to say, the women in biomechanics group, or my American College of Sports Medicine, ACSM, colleagues and committees. And I went on to Twitter and told them what I was trying to do. And it was in that way that I was able to recruit more researchers to participate in this.

### 06:05 Dr. Alexandra Bitton-Bailey

So now that you're sold on this idea, how would you even get started? What materials are needed?

### 06:11 Dr. Diba Mani

So I make sure to have appropriate documents and then I of course verbalize it during lectures, whether that's prerecorded or live about the importance of developing our professional skills, and our intercommunication, interpersonal skills. I provide templates for all the materials that my students are expected to submit back to me. So if I want my students to create a slide deck based on the research paper, I will tell them the steps that make up that slide deck. I give the students rubrics, of course. And so the rubric makes sure that my students and I know what's expected so that I can use that as a template to grade my students, but also they can use that template in developing their material.

### 06:54 Dr. Alexandra Bitton-Bailey

Working in groups interviewing the premier researchers in any given field can be intimidating. But there are alternate means of demonstrating engagement and participation.

### 07:04 Dr. Diba Mani

Not all of the students are excited to do this. And most of them are a little nervous. That is partially why we implement this randomized group setup. So the students that might want to pursue that component do. All the students are expected to join in this interview process, but not all of them might speak up.

## 07:22 Dr. Alexandra Bitton-Bailey

One of the challenges Dr. Mani encountered, was that students needed a little bit more preparation. Scaffolding the activities is a great way of doing this.

## 07:32 Dr. Diba Mani

I didn't anticipate that students wouldn't actually carry out the parts of the presentation development that they'd agreed to with the group at the beginning of the semester. And so nowadays, I have a pre presentation activity that the students put together in the first couple weeks of the semester. This is part of the scaffolded set up. The students meet to create a concept or mind map that connects the research paper to the contents that they are fairly sure we're going to cover in the class based on the syllabus and the course schedule. And then they agree to a timeline for when they're going to commit to submitting their components of the paper or the presentation. For example, Student A might be responsible for putting together the introductory slides, Student B might be responsible for contacting the researcher see seeing everyone else on the email, and putting together the methods. And maybe student C is doing X, Y, and Z. So they commit to these different components at the beginning. And now I'm able to refer back to that document and the students know that document exists. So if there are any questions at the end of the semester to not being held accountable, we can nip it before it's problematic.

## 08:41 Dr. Alexandra Bitton-Bailey

This approach has proven to be really successful and have huge impacts on students. However, there are certain settings in which this would not necessarily work well.

## 08:51 Dr. Diba Mani

One of the other classes that I teach enrolls 180 to 260 students, and me going through not just grading those presentations and those interview processes, but setting that up, making groups happen, making research collaborations happen, is near impossible. So large enrollment courses are probably not the best suited for activities like this.

## 09:18 Dr. Alexandra Bitton-Bailey

Students feel equipped to work and to move forward and even do their own research.

## 09:25 Dr. Diba Mani

Yeah, so there are a couple surveys. I alluded to one of them earlier, that I have the students complete before and after this whole experience. My Qualtrics one is the one where I have a list of different skills that I hope that they build on, or maybe that I'm questioning that they build on. And so I asked them and every single one of those questions is think about it in the positive direction. The majority of the students say yes, I feel like I have augmented my ability to present scientific information or Yep, I agree, I am more comfortable with communicating with somebody from a different culture or country, or, you know what, I feel more confident in working in a team compared to when I first started.

## 10:07 Dr. Alexandra Bitton-Bailey

As always, start small, connect with other faculty, think creatively. How might this great idea be adapted to your field?

## 10:17 Dr. Diba Mani

If you are concerned about engaging with multiple researchers, which I would expect most people to, then don't do it. A traditional virtual exchange is fantastic. And depending on your resources, and what kind of class you have, you should do that. You should have your students in a planned class interact with a group of people in the rain forests of Brazil, if you have that capability, that resource. Just because I've done a multi country, multifaceted virtual exchange doesn't mean that it's the right step for everybody. If that is what you want to do you want to engage with different countries, fantastic. You don't have to have three to four students per researcher or per country in a class of 50 students. That means you have to have about 13 groups or 13 scientists. What if you have larger groups? Or what if you engage with different researchers, but as an entire class?

## 11:08 Dr. Alexandra Bitton-Bailey

Dr. Mani is all about celebrating students interests and successes. One way she does this is through her creativity showcase where students really come to life and show their full talent and understanding.

## 11:22 Dr. Diba Mani

A couple semesters ago, I thought that we should highlight students' talents by doing what I call now a creativity showcase. The first semester started off as extra credit and like almost everybody participated, the next semester is required, but for minimal points. So I opened up towards the end of the semester, the opportunity to for students to use whatever medium they want to highlight a topic that we talked about in class, or to expand on a topic that's relevant to the class, but we haven't covered so maybe we talked about neurological disorders, but we didn't talk about that particular disease. Or maybe we talked about the reflexes, and the student decided to make a video about the knee jerk reflex. Whatever it is, the things that they come up with is just like mind blowing. I had a student create a weekend edition skit, where she created jokes in a recording and pretended that she was the, you know, humorous newscaster about topics covered in the course. Or another one, baked this like amazing, multi tiered like desert, where she like created the parts of the neuromuscular junction. And then she talked about that in a little photograph or video, I think that she posted to the class highlight this. I have students who write poems, and it's like, that's amazing. Like you connected it to your grandmother, who was born and immigrated from Cuba. And you connected that to the polio virus. Like the things that they like do Alex like, I should have done this forever ago. But it's rewarding for me, and I think it's fun for them to share something.

## 12:55 Dr. Alexandra Bitton-Bailey

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