



TEACHING FOR STUDENT SUCCESS

Episode 14

Faculty Mindset: A Hidden Bias that Impacts Student Success with Dr. Oriana Aragón

STEVEN ROBINOW: Welcome to Teaching for Student Success. I'm Steven Robinow. Many faculty participate in professional development programs that promise increases in student success and decreases in the opportunity gap. Programs that train faculty in evidence-based practices have reason to promise these outcomes.

However, some faculty that go through these trainings implement various practices, while others don't implement. What are the factors that underlie this difference? Gender? Seniority? Concern about teaching evaluations?

In this episode, we discuss a hidden factor that impacts the adoption of evidence-based teaching practices: mindset. Faculty that have a growth mindset about their students adopt evidence-based practices at a higher rate than faculty that have a fixed mindset about their students. Since active learning and other student-centered teaching practices have been shown to improve student success, equity, and inclusivity, understanding barriers to adoption of these practices is a critical issue. It's a critical issue, especially for the students whose performance would be positively impacted by the adoption of student-centered practices. Perhaps professional development workshops related to evidence-based practices should spend more time addressing faculty mindset about students so that faculty confront their biases.

Today my guest is Dr. Oriana Aragón, assistant professor and Dan Duncan Research Fellow in the Wilbur O. and Ann Powers College of Business at Clemson University. Dr. Aragón is soon to be an assistant professor of marketing in the Carl Lindner College of Business at the University of Cincinnati. Dr. Aragón is a proud graduate of the California Community College System and the California State University System. She received her PhD in social psychology from Yale University.

I'm very excited that Dr. Aragón has joined me today to talk about her 2018 *CBE—Life Sciences Education* publication entitled, " Faculty Beliefs About Intelligence Are Related to the Adoption of Active-Learning Practices," published with coauthors Dr. Sarah Eddy of Florida International University and Dr. Mark Graham of Yale University. Welcome, Oriana. Thank you for joining us on Teaching for Student Success.

ORIANA Aragón: Thank you for having me, Steve. I'm really excited about this.

STEVEN ROBINOW: I am too. OK, before we get into your research on the relationship between faculty beliefs about intelligence and adoption of active-learning practices, perhaps we should start with a few definitions about intelligence that are relevant for this discussion. Could you please define growth mindset and fixed mindset for us?

ORIANA Aragón: So Carol Dweck did a lot of work on this. She's really the pioneer in this area. And essentially it's just the way that we think about people's capability to learn.

So a growth mindset takes more of the stance that everyone, through trial and error, can move ahead and learn and achieve higher levels of understanding, whereas a fixed mindset thinks that intelligence or ability to learn or bring into mind new concepts is gated by our abilities. In some cases, a fixed mindset can be thought of that we all have an equal amount of intelligence and nobody can surpass it. But more frequently, fixed mindset is referred to and thought of as differing degrees of an ability to learn and to understand new concepts, so that some people have a high ability and others are thought to have a low ability.

So when an individual holds this mindset when considering others and themselves, it can be a really difficult barrier to learning, because now when they see a failure or they don't perform very well, they're not thinking, I can try again and grow and learn. They're thinking, I'm not cut out for this. And when you think about educators, this can be especially damaging, because if they think that their students have varying degrees of intelligence that are fixed, then they might think that only some students are able to learn in a deep way and that others are just going to have to get through the class.

STEVEN ROBINOW: Right, and that's where we're focusing today, really is on the faculty mindset of their students and how that might impact adoption of practices. Can

you please talk about your motivation for this study and the specific questions that you're trying to address?

ORIANA Aragón: So the motivation for the study was I really, I was trying to do a large-scale assessment of the National Academy Summer Institutes. And so these are week-long training workshops in which individuals come and they learn about active learning and inclusive teaching practices. I was trying to understand the uptake, in other words, whether or not once exposed, individuals were willing to implement these new things that we had brought to them.

So it really was coming from the angle of how do I help education reform be really effective? How can I find a way to measure the uptake within faculty of what's been presented to them in a way that is fine-grained enough to give them information that can lead to stronger interventions? And so it came from that angle. So this was just, fixed was one type of personal belief that we thought, oh, this could be interesting. We can see how this might impact this uptake in this EPIC model.

STEVEN ROBINOW: So we're going to talk about that EPIC model in a second. But before we actually describe that, clearly you had observed something about adoption of active learning that caused you to think that faculty mindset, the faculty mindset about student intelligence might impact adoption. You observed something there. Can you talk about what gave you that direction to go, what gave you that thought, that hypothesis?

ORIANA Aragón: I have to give credit where credit is due. So I was the originator of the EPIC model. But Mark Graham on the paper, the second author, was the one who said, I think fixed mindset is really going to make a difference. And his thought was really if you as an educator believe in a fixed mindset and think that some individuals are going to learn and some aren't, why would you do this whole elaborate act of learning and all of this extra work it's going to take to put it together if only the smart ones are going to get it anyway? If you really believe that some students are able to learn and others may be more fixed in their intelligence and that they can't really get there, you might not go through all the trouble that it takes to create an active learning environment. Now, that was the basic idea.

STEVEN ROBINOW: Right, so if you have that fixed mindset, you have students who are doing well. You have students who are doing poorly. And your explanation now is,

well, that's because that's where they fit in the spectrum, right, because you've got a fixed set and you've got the distribution and they're just falling where they belong, if you believe in a fixed mindset. So there's nothing to fix because the system isn't broken.

ORIANA Aragón: Exactly. And the growth mindset is really more in line with active learning. So it's trial and error. It's reaching your own conclusion. It's correcting misconceptions.

It's using learning as a process. Their learning is the more important part. And then the content is just put into that. So being able to reason your way through to be able to make those mistakes and learn from them, that's all part of active learning, right? That's more in line just theoretically and in the spirit of growth mindset. That was Mark's feeling originally, was I think that this is going to really make a difference.

STEVEN ROBINOW: So let me briefly describe this model, which was built to describe the multistage processes of adoption of new teaching practices by instructors. This model, called EPIC, consists of five stages. The first stage, exposure, establishes the premise that educators must be exposed clearly to the proposed teaching method.

The second step, persuasion, instructors must be persuaded that the proposed practice is a good idea. The third step, identification, is when the faculty member is deciding whether or not a particular activity is a fit for them. Is this something they see themselves actually doing? During the fourth stage, commitment, the faculty decides to implement a given practice. And finally, implementation, when an instructor actually incorporates routine use of the classroom practices.

You hypothesized in this paper that the step where mindset might play a role is really in the persuasion step. So that was the hypothesis, right, that mindset, fixed versus growth, might have an impact on the ability to persuade faculty that this was a good idea at all. That was your hypothesis you lay out in the paper.

So why don't you now walk us through the method? Who were your participants? How many? Why don't you give us some nitty gritty?

ORIANA Aragón: Oh, good thing I have my paper.

STEVEN ROBINOW: It's a good thing you have your paper.

ORIANA Aragón: All right, so when I came in on my postdoc to do this assessment of the summer institutes, the SIs, we'll call them, we were hitting the 10-year mark for the SIs. And so I said, let's do a census. Let's really collect some data on the individuals who had participated. We sent emails out to—I'm not sure if you remember getting one, but we sent emails out to every participant that we knew of. And there were 1179.

STEVEN ROBINOW: Yes, I was on that list.

ORIANA Aragón: So in this sample we had 620 respondents. 362 were women. Respondents came from 254 different universities. We had a really nice range of educators. Most of them were assistant or associate or tenured professors. We sent out this survey in 2014, the fall of 2014.

And so the first thing we did was we fit the model to show that the EPIC model itself follows the logical progression. In other words, you get the highest retention at exposure. Then you have some drop-off at persuasion. You're losing some folks. And you lose some folks when it comes identification and commitment and so on.

So we wanted to make sure first that the concepts were related in the way that we would expect, and that also that they followed the progression that was hypothesized. And it did lay out exactly as we would think. So the highest numbers were at exposure. They dropped off a little bit when it came to, is this a good idea, a little bit more, does it even work for you, a little bit more when I'm committed to it, and then even lower yet for implementation. And then from there we ran the model again. But now we added in as an additional factor whether or not they were fixed or growth mindset.

STEVEN ROBINOW: So in the questionnaire, you have three statements that probe these theories of intelligence. Here are those statements. First, I believe that you have a certain amount of intelligence and you really can't do much to change it.

The second was I believe that your intelligence is something about you that you can't change very much. And the third one was, I believe that you can learn new things, but you can't really change your basic intelligence. Those were the three statements. And faculty respond to these statements by placing themselves on a Likert scale from strongly agree to strongly disagree.

ORIANA Aragón: And so the factor was put into the model. It could have affected an exposure. It could have affected anywhere in the model. It could have related to any of these factors. But it significantly related more so to persuasion, so right where we thought it would hit. It did impact persuasion and subsequently implementation itself.

STEVEN ROBINOW: So that's the major result there, right, is that faculty that think about their students as having a fixed mindset. I don't know what they think about themselves, but they certainly think about their students as having fixed mindsets. They have a harder time being persuaded that active learning is a good idea. Therefore, they don't implement, or they're harder to bring to the table to implement.

ORIANA Aragón: Right, and this is really important to know, right, for those stakeholders. They're trying to implement change. So there are ways that they can address this by maybe really highlighting all the ways that active learning can benefit and boost the entire class, right, all the students that are engaged—well, actually, active learning increases engagement, getting them engaged and getting them all up to a better level when it's done.

And so there are ways to address it straight on in that exposure, so in those SIs explaining to them, look, we understand that you may or may not believe that people have different levels of intelligence. But let's talk about how this learning style can help everyone. And let's talk about how understanding the trial and error is a good and helpful part of learning, can be really helpful for your students.

So I think that one thing that was pretty universal about the attendance of the SIs is they were all there in good spirit to be helpful and to learn good things to help their students. They all were very student-centered educators. And so that's the good part, is knowing that you have eager people who want to be the best they can be for their students.

STEVEN ROBINOW: Right, you've got a select group there, right? They've self-selected to show up at these week-long events that it's a huge commitment on everybody's part. So what percentage of the faculty that attended the SIs, what percentage of them did you find had fixed mindsets towards their students?

ORIANA Aragón: They were on a spectrum. There were some that were very, very more so growth, some in the middle, and some that really believed more so in the fixed mindset. I would say that our select group was a little bit more to the growth side. But I'd say that they had heard of growth. They had heard of fixed.

So I think more of them were edging towards the growth, which actually works against this hypothesis in the more general—right, in the more general educator population you might expect to see a wider distribution, a little bit less bounded towards the growth side, so that this might actually be a larger problem in the more general population because this is a select group of people who are really interested in improving teaching. There are people who with on that one to six, and six is fixed and one is malleable, there are people who are landing on the six.

STEVEN ROBINOW: On the six. So you have both. You have both extremes, people who are participated here and these fixed mindset, these folks that are coming into the faculty with fixed mindset have chosen to come to a workshop that focuses on the notion of these active learning principles. It is not very consistent with fixed mindset.

And what you find, in fact—so it's good that they're there and what you found, that they implement at a lower rate than those at the other end of the spectrum. And that's the important thing to understand. And so we have faculty all over the country going to training sessions of professional development of all sorts to talk about student-centered practices of a wide range, not just active learning, but equity, inclusivity, loads of issues that are being talked about now.

But you've got a problem. And as I introduced at the beginning, it's sort of a hidden problem, because if you don't ask this question about who's got—who thinks about their students in these different ways, you wouldn't know that you're talking to people that you've got a basic fundamental issue that you need to deal with before you can open the gate, right, because they're just going to hit this gate every time because they don't believe it because their students, in their mind, have fixed mindsets and aren't

malleable. So why would you go through all this work when it's not going to make a difference? So you have to get over this barrier.

ORIANA Aragón: Yeah, which is—I, mean which makes sense in that way, right? I mean, if that is your belief, then it does make sense that why would I do all this? This is a lot of work to transform my course. So these things can be addressed at that intervention level. You can take the time to explain how these things are really helpful.

STEVEN ROBINOW: And you mentioned this in your paper. You mentioned that there's interventions that you can do. There's things you can do. And people are studying these sorts of questions now. But faculty are a unique group of people.

ORIANA Aragón: They're autonomous.

STEVEN ROBINOW: Yeah, they're autonomous. And so you say at the beginning of your conclusion, another quote, "Understanding individual differences within instructors might provide insights into how to most effectively persuade them of evidence-based teaching practices." That's your quote.

You are talking about displacing a fixed-mindset belief system with a growth-mindset belief system in faculty, right, one of the most immovable forces in the universe, right? Right? Sorry. Right, faculty, we know better than everybody. And each of us independently knows better than everybody else.

So what I really want to know, yes, you mentioned practices or ideas of things you can do. Many of us have taught for a long time and know that student misconceptions, you can talk about lots of things, but if you don't start to understand how to displace misconceptions, read Michelene Chi's work. You're Sisyphus, right, because you've got to break through those beliefs, these deeply held beliefs that are incredibly hard to displace.

Watch a video called *A Private Universe*. We'll put a link in the website. So is there any evidence that you really can move faculty on this idea, right? I mean, this is really hard, moving people's beliefs.

ORIANA Aragón: I would think as a social psychologist that if we can appeal to their values of doing well for their students, or even their values of being a good educator if that's part of their personal identity of I'm good at this, you might be able to pull those strings to get reform to take hold. So we're multifaceted. Humans are multifaceted. So as stubborn as we can be in some ways, I mean, we do hold certain values that the efforts of teaching reform are in line with. So you would hope that appeals to those values would be the most effective way.

STEVEN ROBINOW: And I think that, I think you're right. I think a very effective way to appeal to faculty is on issues of ethics and morals, that continuing on certain roads and continuing on doing things the way we do them, you'll continue to fail x percent of your students. And in way too many situations, if you take a close look at the students you're failing, those are the students, those are the first gens, students of color, those are people like you, people who have been historically excluded in so many ways. And so I think that is the approach. You stop focusing on failure rates and you start focusing on equity and inclusivity issues, really equity issues, right, which have become moral issues that it's hard to argue—I don't think anyone, I think everyone would appreciate that we're really there to teach students. We're there for the students who are in front of us. Huge issue.

ORIANA Aragón: There's also one other thing that we worked a little bit on with Jack Dovidio. And that's having contingent self-worth. So the idea is that I'm concerned about my group. I want my group to be A1 so that I can be A1. And if they're not A1, then I'm not A1.

And so there's a certain—this is a sign of the dark side, but there can be a certain elitism to I only want the best in my field. I only want those strongest, top, not realizing that a lot of other ones can be best too if they had the right help along the way. That sort of elitism can also be a barrier that is really tied into this fixed idea in a lot of ways.

STEVEN ROBINOW: The elitism is a system where that continues to spit out what we've been spitting out for 100-plus years. You continue to select for the same thing you currently select for. You select for people who are good at taking tests quickly. That's one thing, right, timed tests. Do you take tests well?

And you take people who have come from backgrounds, more advantaged backgrounds, because they have advantages that others have not had. But that

doesn't mean that the others aren't as smart, can't get there, aren't as interesting, creative.

ORIANA Aragón: And they bring new perspective, right? So you bring in people from different—you've got all these great new perspectives and new ways of looking at things.

STEVEN ROBINOW: Thank you. Absolutely. Let me come back to a few other questions. So has anyone looked at the fixed-mindset faculty that do implement active learning?

So one of the things that you talk about active learning is OK, so you've developed a great method for active learning. And it works great in your classroom. Then I do it and it's a total failure. People talk about this a lot, right? That's one of the problems is this transferability of practices.

I've developed a unit on this. People should go to CourseSource. So there's lots of resources out there, MERLOT. There's lots of resources for practices.

But some people will find that practices don't work for them in their classes. There's lots of possible reasons for that. One possible reason is that the developer is probably someone with a growth mindset, let's say, who's developed a great practice. But imagine that somebody who is a fixed-mindset person implements things, doesn't believe, but implements them anyway. Is there any evidence about the quality of implementation of fixed-mindset faculty versus growth-mindset faculty and the impact on students and the success of students in those various situations?

ORIANA Aragón: I think that there are two things, two prongs to what you just posed. One is the mismatch between the mindset of the creator and the mindset of the implementer. That mismatch could really lead to some discouragement for the implementer, right, because they're seeing failure in their students and they're not understanding it's part of the growth process. They're thinking they're not getting it. And it feels like a failure when it isn't. That's one prong.

And then there's the other prong, which is when we first try these things, they don't all have flying colors. You have to be able to take a few hits and work your way through them. They're not always perfect the first time out. And a growth mindset is all about learning and growing, right, and taking those failures and learning from them and keep moving. But a fixed-mindset person is more likely to think that it's attributed to their own intelligence. So it's an insult to their abilities to not be able to get it to work.

And so for someone with a heavily fixed mindset who's trying to implement something, they have their own growth that they need to worry about. And getting them into a more of a growth mindset might facilitate implementing. So it's not only how they see their students perform and what that does, but it's also their own performance and they start questioning themselves if it doesn't work perfectly the first time. I mean, that's the hallmark of the fixed mindset, is really taking it badly when things don't go well and taking it as a sign of poor intelligence, when it's really just a growth process.

STEVEN ROBINOW: Interesting. That's an interesting perspective on that. OK, one of the concerns you described in this paper is that you're measuring faculty or own perceptions of adoption and implementation. So we all—a conversation I had with my daughter the other day, we all wear rose-colored glasses or glasses of some tint, suggesting that our reflection on our own practices may not be, shall we say, unbiased.

You propose that future research should directly measure instructors' implementation of active learning. The only way around this is to go in and be more objective about what's really going on in the classroom, because to this point, you're just taking a survey. I'm telling you what a great job I'm doing, versus you coming in and saying, well, Steve, it's maybe not as great as you think.

So how do you propose to do this? Are you or your coauthors in fact following up on this issue? People must be doing this. So what do you know about that?

ORIANA Aragón: So I know when I left my postdoc position that they were working on it. And we had already started some interviews where we were going out to the schools and meeting with educators one on one and talking to them about their active learning and inclusive teaching practices. You're right. You've got to go out into the classroom. It's the best way to do it.

It's so funny that you say this, because one of my newer projects I was working on, Gender Bias in Teaching Evaluations, and it's so funny, because I think about somebody going out to a classroom to watch. And we find that they see two different things, depending on who's teaching. So it would be very interesting to know whether or not those observers could be trained to be unbiased in seeing the teaching evaluations without bias, because the instructors themselves are going to have bias. But then who you send out as well. It's more problematic. It's tangled.

STEVEN ROBINOW: How do you un-bias people? So actually, so I was thinking, I mean, one of the problems with the notion of going out and observing classrooms is it's limited by actually, because that takes real people, real time to do that.

ORIANA Aragón: You can only get a sample.

STEVEN ROBINOW: And you can only get a sample that way. And then your sample, I mean, this survey was 620 people, which is actually a pretty big—it's a pretty big n in this sort of work.

ORIANA Aragón: Oh, for faculty, yeah, it's huge. Yeah.

STEVEN ROBINOW: For faculty, staff, that's a huge data set, right? So it makes me think about Kimberly Tanner's DART program. So the way you get around this, at least some of this, right—so she has a program that measures the noise in the room and the quality of the noise in the room. I don't know if you're familiar with this.

So the program is—well, I'm going to describe it badly. And Kimberly can come on in and correct me. Basically, you put a microphone in the room and you just listen to the noise. You record the noise.

And when one person is speaking, the noise has a certain pattern. The waveform has a particular property. When the whole class is talking, it looks very, very different. So you can just look at the waveform and quantify how much time one person is talking, one person, versus how much time the entire class is talking.

And if your model of active learning is one that is vocalized, that works. If one of yours is not vocalized, you're doing group work and it's all quiet, well, you're not going to see anything, except that maybe the class goes quiet and that tells you something else. So I'm wondering if people thought about automating something like this so that you can go into 600 classrooms or 1,000 classrooms across the country, from community colleges, four-year institutions, liberal arts colleges, R1s, so that you can collect across the spectrum, across the postsecondary academic spectrum, and really get a rich data set of small classes, large classes across all the disciplines. Does anybody—I don't know, maybe we should think about that.

ORIANA Aragón: I think what Kimberly is working on sounds amazing. I think that that's a great idea, to listen to what's going on in the classroom. I think that's probably one of the best ways. That sounds like a wonderful idea.

There is psychological, there's psych research on the more concrete you are, the less likely you are to have noise when trying to understand. I mean, of course, people can fudge and they can actually just not tell the truth. But if people feel comfortable in telling the truth about where they are in their teaching and it's made known that there's no judgment, we just need to know where they are, if you're concrete, you're more likely to get accuracy.

STEVEN ROBINOW: What does that mean? I don't understand, if you're concrete.

ORIANA Aragón: Concrete rather than abstract in the question posed. So was Tuesday's class active versus did you have at least 50% of your class time spent on activities for your students on Tuesday? Or even better, did you have an activity during class on Tuesday that took x number of minutes, right?

So the more concrete you can get, the more accurate you can get, the less biased in their report, because it'd be like oh yeah, yeah, we had an activity and it ran 28 minutes. So assessment that gets very concrete can get a lot more accurate. There's a lot less room for you to bias around, swirl in your head. Well, I don't know. It felt active.

But if you get very concrete about what you're asking—did you have a formative assessment for that assignment? Did you have a way of letting students know how they did on that particular—did you have a wrapper? If you're asking all of the details,

you can get a—you can get a pretty good—as long as people feel comfortable and say no, I didn't have it, you can get a pretty good understanding of what people are doing.

STEVEN ROBINOW: Oh, so with a good survey, well-constructed survey, you could get a large data set.

ORIANA Aragón: You could. And what would be super would be to have that audio data set to be able to then get this supportive and triangulated evidence, because now you have more than one source pointing towards this latent construct of are we doing our active environments? So that would be really cool.

STEVEN ROBINOW: Very interesting.

ORIANA Aragón: I'm sorry, I usually—I do a lot of interviews in podcasts, but they're usually on the other things that I research, like emotions. And this is the first time I've been asked to talk about this. So I know I'm probably not very well spoken at all, because I'm just not used to talking about it. I'm so excited that you asked. This is the first time.

STEVEN ROBINOW: Oh, well, good. I'm glad I got something no one else has done.

ORIANA Aragón: Nobody else is asking me about this. Yeah.

STEVEN ROBINOW: I'd like to close maybe with a personal story or two from you. What drives you? Why do you do what you do? Why did you take this path?

ORIANA Aragón: I was in my mid-30s when I started school, when I started college. I didn't have opportunities when I was younger. And I started at the very beginning of the beginning at Palomar Community College in San Marcos. And they were wonderful there. They were absolutely wonderful. They supported me and cared about me and challenged me. It was a wonderful educational experience there.

And from there I went to Cal State University San Marcos. I got my bachelor's. And so for me, figuring that out—I was a little bit later in life, but I remember I had gotten a summer internship at UCSD to go and work with Jaime Pineda in his lab. And we worked with children with autism. And we were doing neurofeedback training. We were trying to ameliorate issues with understanding other people's facial and bodily postures, facial expressions and bodily postures.

And so there's such a deficit in understanding one another for individuals with autism. We wanted to understand that better. And I was in the lab working one day. And there was a woman there with her teenage son. And she was really frustrated with him. He had done something that had really upset her.

She grabbed him by the face. And she said, look at me. Look at my face. What is my face doing right now? And she had an expression like I'm irritated with you.

And he just, he just looked at her. And he wasn't quite sure. And it was just this moment of, oh my gosh, I want to help this woman. I want to understand what's going on. I want to be able to understand expression.

And so my main research is in emotion expression in communication. And that really is still the most interesting topic in the world to me, is emotion expression in communication still since that moment of watching that mother trying to communicate with her son. And I was a single mom in undergrad. I had a son who was similar in age. And I think it, it just hit me. It just really struck me as being really important. This is really important.

STEVEN ROBINOW: That was a transformational moment for you.

ORIANA Aragón: Yeah, it did. It shaped me incredibly.

STEVEN ROBINOW: Do you think you realized it at the moment?

ORIANA Aragón: Yeah, oh yeah. I knew right then. Yeah. I knew. I knew that, oh, wow. I want to understand this. I want to be able to help people.

STEVEN ROBINOW: It changed the course of your life, that moment.

ORIANA Aragón: Yeah, because I didn't—I didn't know if I was going to go to grad school or what have you. I just at that point, that's what changed it, working in Jaime Pineda's lab in that really crystallized moment. And from there everything had more meaning. Everything had more meaning because I was there for a purpose. I was working towards something. And even if I only gave a little nugget, maybe I could make it better.

STEVEN ROBINOW: Right. So does Jaime Pineda know this?

ORIANA Aragón: Oh, he knows, yeah.

STEVEN ROBINOW: OK, yeah. I love these stories. And in one of my other episodes I talked to Harriet Schwartz about relational cultural theory. She has a book called *Connected Teaching*. It's about relationships and laying this cultural theory, this theory onto the educational platform. It's really interesting.

And she talks about these asymmetrical relationships, these moments. I mean, they can be long or short, these moments between two people. So you had this moment between three people—you, the mother, and the son. Son?

ORIANA Aragón: Yes.

STEVEN ROBINOW: And that moment meant something very different to them than it did to you. To her, it was probably just a normal day. It's like, oh yeah, I go through this. This is what I do all the time, right? This is my life.

And you saw a moment of her life. And so for her, it was just a moment in her life. For you that was a transformative moment. She didn't know that. This woman has no idea the impact she had, she and her son had on your life. That's great.

ORIANA Aragón: Oh yeah, well, I think most of us have these interesting stories about what got us started.

STEVEN ROBINOW: Yeah, most people do. And they're great to hear. They're really great to hear. Oriana, I'd like to thank you so much for the time you spent with me today. I look forward to your future work on—although I don't know if you're going to be doing it, future work on mindsets and the possibility of realigning the adoption of student-centered teaching practices with faculty. This has really been a fascinating discussion. I've enjoyed our time together. So thank you so much.

ORIANA Aragón: Oh, you're welcome.

STEVEN ROBINOW: In addition to this podcast, our website, teachingforstudentsuccess.org, will provide additional information about Dr. Aragón's research and her publications. We will also post articles and books that Dr. Aragón recommends regarding emotions and beliefs and the adoption of evidence-based teaching practices in the classroom. Thank you for spending time with us today. Please share our podcast and website with your friends.

Thank you for caring about your teaching and your students. I haven't thanked in a long time, but let's do that today, thank you to the army of education researchers out there working to improve the learning experiences and learning environments for all students with the goal of providing opportunities that help all students succeed. Those of us at Teaching for Student Success would love your feedback. Please contact us through our website at teachingforstudentsuccess.org.

Teaching for Student Success is a production of Teaching for Student Success Media. Let's end this podcast with some music by JuliusH. Some of Julius's music can be found on Pixabay.

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