

CR: Welcome to professors talk pedagogy, a podcast from the Academy for Teaching and Learning at Baylor University. I'm your host, Christopher Richmann. Professors talk pedagogy presents discussions with great professors about teaching, curriculum and learning in order to propel the virtuous cycle of teaching. As we frankly and critically investigate our teaching, we open new lines of inquiry, we engage in conversation with colleagues and we attune to students experiences which not only improves our teaching, but enriches and motivates ongoing investigation. And so the cycle continues.

Today, our guest is Dr. Charles Weaver, Professor and Chair of the Department of Psychology and Neuroscience at Baylor University. Teaching at Baylor since 1989, Dr. Weaver is a cognition and memory expert who regularly gives presentations on the science of learning for graduate students and faculty. He was a Baylor Fellow in 2012, participating in a year-long fellowship centered on exploration and experimentation in a cohort with other recognized outstanding teachers. In 2020, Dr. Weaver was named a Baylor Master Teacher, the highest honor for teaching bestowed by the University. We are delighted to have him on the show to talk about failures, teaching legends, enthusiasm for what you teach, and much more.

Well, Charles Weaver, welcome to the show. Thank you so much for joining us.

CW: Thank you. I'm happy to be here.

CR: So I want to start out real easy here and just orient our listeners to who you are in case they don't know you. Could you just say a little bit about the roles you've had at Baylor and how long you've been here?

CW: Sure. I've been at Baylor since 1989, so over 30 years now. I'm currently the chair of the Department of Psychology and Neuroscience. I've been that for the last six years or so. Before that I was Undergraduate Program Director and before that the Graduate Program Director. So all the work I've done has been in the Department of Psychology and Neuroscience. It's been three decades worth, it's funny how quickly that time seems to have passed.

CR: And the cherry on top of it all, most recently you've been named a Master Teacher, which for those who may not know at Baylor is the crowning achievement, the award after which they say "no more awards, you're done. That's all you get."

CW: That'll be alright with me. You know, I had the good fortune of 35-40 years ago taking classes from a handful of the original master teachers, Bob Baird and Tom Hanks and got to walk London with Jim Vardaman. I got to take physiology with Ray Wilson. And those were the people that were in my mind just legends. And to be mentioned in the same—to be now appearing on the same webpage as them—just doesn't seem possible. It is a very humbling honor for me.

CR: Now all of those teachers, of course, have, have their own styles as, as we all do, whether we get teaching awards or not. But is there anything that you took from experiencing, conversing with, observing those master teachers, that you've tried in your own classrooms?

CW: I'm sure unconsciously I've adopted something from all of them. The one person that I can remember when I was an undergraduate—so this would have been 1981—that I said “I want to do what he does and I want to do it the way he does” was a former colleague of mine, **Louis Barker**. And it was the, I think it was the enthusiasm with which he was able to teach. He just loved what it was he was teaching and it made it easy for me to fall in love with that too. So, I think if there's one thing that I've copied, and again, not by design—it just kinda oozes out of me—I really like the stuff I teach. I just find it the most interesting stuff in the world. And it's hard for me to imagine that anybody else would find it anything other than interesting too. So that's probably just grandiose on my part. You know, it's a privilege to be able to share this with the students I'm teaching.

CR: Enthusiasm, as you might know, is something that pops up in the scholarship of teaching and learning all the time too as one of these things where if you're asking students what they think makes for a great teacher or to give the characteristics of the best teachers they've had, enthusiasm or some synonym will almost always appear in the list. But it's also such a personality-based thing too.

CW: Maybe. I've seen some people that are incredibly introverted that just love what they, what they're teaching. And they almost become a different person when they're teaching because they're inviting us into a private world of theirs. You know the folks I see that teach out of that place of excitement, it seems pretty genuine to me.

CR: Yeah, your colleague Karena Malavanti was starting a faculty interest group on the *Geeky Pedagogy* book—I'll make sure once we get this episode up online to put a link to it—but talking just about that: teaching while introverted, essentially. It was in the spring that we started the group, so we had to pause because of the pandemic. But we had one conversation where we just sort of went around the table and said, “Hi, I'm Christopher, I'm an introvert” and everyone said “Hi Christopher.” [laughter]

CW: We all are, aren't we? We're academics, we all stayed home on Friday night and read the read the latest book. And it's a good example and one that I actually use in class of mistaking something that comes out because of the environment we find ourselves in and interpreting that as a trait of the person. If you saw the 25 people in our department, you would think “God it's a department full of extroverts.” It is not. It's just our job is to get in front of a class of 200 people to talk really loud about geeky stuff. And it makes us look like extroverts. But that's again, that's where the enthusiasm comes in.

CR: Well, you've mentioned this, these large classes, 200 students, 300 students. What, what are the real challenges or opportunities for those massive—at a place like Baylor we consider that the massive course.

CW: It is. I think they're the biggest classes—that's the biggest classrooms we have, I think. During these pandemic times we're teaching those over in Waco Hall. So it's a 2400 seat auditorium, but the greatest capacity can be because of distancing is 300. So it's a really curious experience to speak in such a wonderful venue. I imagined it would be a phenomenal place to, to lecture to 2000 people, but I'm lecturing mostly to empty chairs. But even in a normal setting, in a normal semester, the challenge of those big classes are do you aim for the top 10% knowing that you're going to lose a bulk or do you try to make sure that everybody gets pulled along, in which case you're probably boring the top third. And I don't know that I have made conscious decisions about that. I do what I do at the introductory level and I encourage the students to join—and some of them don't. Some of them are making a choice—and they're perfectly free to do so, they say “I just need to make a C in this class.” That's all they really need. “I'll make a C, I'll get out of here. I don't particularly find this interesting,” and, and I don't take that personally. But that's the challenge of a big class. If you're looking for 300 engaged faces, at least I never get that money. There are always a few that are just bored because it's such a big group.

CR: Let's talk a little bit about styles. We can swing back to the question of learning styles because I know you have some thoughts about that, but when it comes to teaching styles, give us a sense of what it's like for students having you as a teacher. How might they describe your teaching style?

CW: I think some of it falls out of the discipline I'm in. Psychology and neuroscience is not a discipline where we do interpretation: “Tell me your reaction to this” or some. It's much more of a fact-driven kind of thing. I asked students in a class and cognition, for example: “It's not that I don't care about your opinion about the capacity of short-term memory. Oh, no, wait, it is that: your opinion of the capacity doesn't matter. I want to know what are the, what the data say, what are the facts.” And so I think by that kind of nature it lends itself to a little bit more of the traditional content delivery. In the classes I teach, we don't do a lot of small group work. I've had terrible success—I think this is more me than a technique—of doing flipped-classroom stuff. One of my biggest weaknesses as an instructor is I don't like to lose control of the class. And kind of by design when you flip the classroom, you're giving up control. And there were years where I tried to work on that, there were years where I tried to slow down the rate of speech in class. Both of those I've just accepted, “Yeah, that's kind of who I am.” That's a trait at this point. It's not something I'm going to be able to change.

CR: Yeah. I'm glad you put it that way because as much as I love the scholarship of teaching and learning and evidence-based teaching, it can get to a point where you're sort of chasing what seems to be the evidence. But when you're dealing with something, I'm talking with a psych instructor, when you're dealing with something as volatile as human behavior, there's not—the evidence can only point you in general directions. Even the best evidence can only point you general directions and you still have to deal with “who am I as the instructor,” this human part of it too, right.

CW: Yeah, I've seen some incredibly gifted instructors that have the patience to ask a question and sit in silence for 90 seconds until somebody volunteers an answer. I can't. I'm that guy that goes "Okay, Okay, Okay. I know I shouldn't do this, but I'm gonna go ahead and answer it for you." And again, we all are a combination of our strengths and weaknesses, and that's one of those that I've realized that's just the style in which we do. The other thing that I've come to realize that even in science-based courses, and I talk about this with my colleagues a lot, we're storytellers. And even if you're giving a lecture on a certain individual that suffered brain damage, that causes them to have memory disturbances, there's a story there. And one of the things that we acquire over the repetition of doing this is a way to tell the story that is compelling—a way to tell the story so that the students take away from it, what you want them to take away from it. Even in really fact-based stuff, there's always a narrative. "What's the main point of the 50 minutes that I'm going to talk about today?" Again, I did that before I think I was aware I was doing that.

CR: Yeah. And for, for those in sciences too, Ken Bain's book on What the Best College Teachers Do, he's got, it might be a whole chapter, at least a major section on this storytelling thing. And, and for those of us who might be teaching in disciplines like the hard sciences, you say, "well, there's not a story here." There's always a story in the history of the discipline.

CW: Oh absolutely.

CR: And that in itself can be, it can be very intriguing and raise all kinds of questions. And there's human drama and intrigue involved and all that. There's politics involved and all of that. And at the end of day you're teaching them about scientific process too.

CW: That's exactly right. There was a wonderful book that Bill Bryson wrote about ten or 15 years ago. I think it's called A Short History of Nearly Everything. And it's basically him asking, "How do we know what the temperature is at the center of the Earth? How did one ever find that answer out? How does one know these kinds of things?" And even in the history of science, you're right, it's all full of people, it's all full of stories. And so the answer to "how hot is it at the center of the Earth, or is it really made of molten lava or how did magnetic fields arrive" or whatever. Okay, that's one thing, but how do we learn that? How does one go about learning that? That's probably the more durable takeaway message anyway, is how does one go about answering a question like that?

CR: Right? So does your teaching style change at all with the size of the class? I think it does in the smaller classes, it's much more interactive. Here's another old school thing: I just loathe using PowerPoints. You really have no choice in a larger class but to do that because they can't follow handwriting. But in, in any class of 25 or 30 or smaller, it's all blackboard stuff and in large part because I had no idea exact, exactly what form today's lecture is going to take. I know what the story is but I don't know how I'm going to get there. And so every time I tell that story, it comes out a little bit different.

CW: And I don't like to be constrained by "here's what I've done in the past." Powerpoints kind of lock you into "Here's the way I'm going to tell that story." I think it's much more dynamic, much less repetitive in the smaller classes. But oddly enough, I really enjoy the larger classes too.

CR: Yeah, when I'm speaking with faculty about PowerPoint, you know, there's a whole—and I suppose I'm part of this group—there's a whole generation now of faculty who have come in learning with PowerPoint. Our instructors in undergrad, pretty much all use PowerPoint. And so we can really get locked into, "well, this is how a college lecture proceeds." You come to this conclusion because you remember a time before: "B.P.P.T."—before PowerPoint—you know, and it's exactly that, this issue of a PowerPoint has a very linear way of telling a story. And sometimes that's good, but sometimes a story needs to follow a tangent. Sometimes a story needs to be able to pause to readdress something or, you know, to circle back on something and that is hard and it's a little clunky when you've got the PowerPoint as your main tool.

CW: Yeah, it doesn't lend itself very well to the rabbit trails. "Let's go, let's go see where that's gonna take us." And that's a big part of what I do.

CR: I'm assuming you teach graduate courses as well?

CW: I do.

CR: What's different about teaching graduate students for you?

CW: It's much more intimidating. With graduate students, I'm well aware that I'm teaching people very likely smarter than I am. It's probably true of the undergraduates too, but it's certainly true of graduate students. They're really, really bright people. And at this point in my career I've been teaching the same content areas long enough. My strengths as an instructor are much more big-picture stuff. I can see how all of this stuff gets together in a way that I really couldn't the first ten years I was teaching. But that has come at the expense of me knowing what was published in last week's journal. I was much better at that stuff the first ten years I was teaching. That's just the arc of a career. And so they do a really good job of kind of keeping me on my toes. Teaching a graduate seminar on something is a terrific way to hold yourself accountable for keeping up reading or "I've been meaning to get to that. Let's do a seminar in that" because graduate students really do hold you accountable.

CR: Yeah. You mentioned some things that you tried that didn't work so well for you—the flipped learning model. Can you say a little bit more about that or any anything else that you've tried and just said, “You know, I gave it a good go, I gave it the good old college try, but this doesn't fit me as an instructor.”

CW: There's some of them there that way. There are other things that I want it to do that were not effective. I remember eight or ten years ago when I was doing the Baylor Fellows Program and I had become frustrated with the amount of time that I was putting into grading student writing. They would write a 15 to 20 page paper and I would spend hours correcting, formatting, rewording for them—the kind of thing, the only way I ever learned to write was to give what I thought was perfect to somebody. And it just came back all marked up. And I saw what they did and I saw every one of the things that they did made improvement to me. And I had seen students: They'd get that. They'd look at the whatever grade was at the top and then throw the paper without looking at a single thing beyond the grade. And I thought, “Okay, well, here's what we'll do. I'm going to schedule an hour with each student. And in real time, I'm going to edit the first five pages that their paper and sit there across from them and show— “What if we use this phrase instead of this phrase? Let's not start a word with there is, let's see if we can do a sentence a little more elegantly than that. And they absolutely hated it. And it was, it turned out to be really painful for me because they hated it. I thought, “what a great way for me to show them,” you know. And they just felt like “I felt like I got beat up for an hour.” And that was not my intent, but clearly that was how it came across. So that was something that the investment was too much time for way too little pay off. So now I reserve that just to my own graduate students. When they turn into drafted a thesis, they'll get the marked up treatment and they're happy about it.

CR: There is a good idea embedded in that though that I think a lot of instructors are trying to do, especially in these days, where we're using technology more, which is to give audio or video comments on a paper and just record that, you know, and you can be pretty concise and in five or ten minutes, you can give that same kind of feedback. But the student, as you say, doesn't have to sit across from you and you see the life just sort of drain out of their face while you're talking to them.

CW: And a big part of it too, I think, is where are they and receptive process? Are they ready to hear that? Nothing is more doomed than trying to teach something to somebody who's not yet ready to learn it. And most of them just had no interest in that. I probably ought to make some variant of that available to the two or three that said, “this is really interesting.” You know, I don't think 22-year-old me would've appreciated that. I think 22-year-old me would have thought what a terrible waste of time. Why is he doing that? 30-year-old me would've loved it because at that point I was ready for somebody to say, starting a sentence with “there is,” is a really bad way to start a sentence. At that 20 I thought “there is no reason I can't do that.”

CR: Just as you do. [laughter]

CW: Exactly.

CR: Well, I want to I want to give us some space also before we go to talk about where you're teaching overlaps with your research in the areas of cognition and learning and memory. So I've heard you speak a number of times about how we learn and how instructors can be mindful of that. Where do you see the major points of those of that overlap for you?

CW: Some of it comes from general principles. When you begin to think of how limited our ability to process information is, I always tell our students that "your working memory space, your short-term memory space is the most valuable cognitive resource that you own. Spend it wisely." And so anything that a student does where their attention is distracted or is going to impair what they're doing. If they're multitasking, pick up their phone while they're trying to take notes, they're not going to be able to do either of those very effectively. But I think that the real benefits came about 15 years ago when folks in my field asked what you would think we would be asking all along, which is "what you've learned about how the memory works in the laboratory. Does that actually work in the classroom? Does that translate into the classroom?" And it has only been in the last 15 or 20 years that we begin to address that as explicitly as we have. And it's an exciting time to be in the field because it's a small collection of scholars that are doing really good work in this area. And it's had a real big impact. You begin to hear people talk about evidence-based teaching all over the place. And Academy for Teaching and Learning was not on Baylor is Radar 20 years ago. It doesn't exist without a scholarship of teaching. And it's fun for us to be asked to be a part of that. Those of us who study learning and memory for a living, yeah, we want to be a part of that conversation. I don't think we're, you know, we're not egotistical enough to think that we should drive the conversation. But, you know, what you guys do over there is, is just phenomenal. And I never walk away from interactions that I don't learn something. There's just something that happens when you bring scholars from a dozen different disciplines together. And I'm glad that psychology and neuroscience can be a part of that.

CR: What I think is so interesting when I've heard you speak about memory and learning is how it reframes and it really deepens the eternal conversation of responsibility in learning. Because you can take away some principles from how people learn and say, "well, this can translate to these perhaps better teaching practices." But it also, as you said, when you will give a presentation and then the first question is, well, how does this change my teaching? And you say, "Well, you know, a lot of it is helping the students know how they should be dealing with the material, how they should be interacting with it, how they should be studying.

CW: Yeah, I think those of us who teach for living, especially college professors, we probably overestimate our influence. We'd like to think that we can take complex domain, give me 36 hours of your time and I can teach you to master it. And that's, that's hubris, right? But what we can do is tell you enough about the really interesting stuff that you'll be willing to invest some time outside of class and we can help work through the really hard stuff with you so that you don't bogged down when it gets difficult. So, you know I had a professor back from my college days that said, "the traditional lecture is

defined as a professor's notes reappearing in a student's notebook without any cognitive operations being engaged on either end." And I think we've gotten away from that model. It's not, "I'm reading off my yellow paper notes here." It's much more dynamic than that.

CR: Yeah. Well and that's where—we were just talking about perhaps some of the deficiencies of PowerPoint—where you can really be intentional about that and say, "Okay, I'm going to have this, you know, this kind of a rhythm of four slides and then a question that I pose." Sometimes using the tools that are available now can help instructors be more conscientious about that.

CW: They really can. And they, PowerPoint does have some tremendous advantages in terms of you can very concisely show things that otherwise we used to have to describe. I can either tell you how such and such amnesic performs on a test or I could show you a 30-second clip on it. And it's really much more memorable to show you that clip. So it's easy to bash PowerPoint. Used appropriately, it's a wonderful device. But you're right, it lends itself to a very linear, fairly rigid "We're gonna do A, then B, then C approach." And not all courses follow that kinda progression quite so neatly.

CR: Well, we are about at time here. Any final thoughts or any items that you were hoping to just get out there that maybe we didn't cover.

CW: No, it's a privilege to be at a university that values teaching like Baylor does, and it's really a privilege to be in a department full of colleagues that think about these things all the time. You mentioned Karenna Malavanti, Brad Keele, Hugh Riley, Jo-Ann Tsang. We talk about teaching all the time. And it's just, it's a marvelous conversation to be a part of so great. It's a great place to work and it makes it fun to come to work every day. And I think we all appreciate the responsibility we've been given. We've kinda got a privileged role that isn't so much earned, but it's given to us by our students and by the families of the students. And I hope we never lose sight of what a great honor it is to be trusted that way and to use that responsibility appropriately.

CR: Great. Alright, well, Charles Weaver, thank you again for joining us for this conversation. It has been a pleasure.

CW: You bet. Thanks very much, Chris, bye-bye.

CR: Our thanks again to Dr. Charles Weaver for speaking with us. If you'd like to learn more about some of the literature we touched on in this interview, including effective use of PowerPoints and books like Ken Bain's *What the Best College Teachers Do*, Bill Bryson, *A Short History of Nearly Everything* and

Jessamyn Neuhaus's Geeky Pedagogy, see the links in our show notes. That's our show. Join us next time for Professors Talk Pedagogy.