

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 pedagogy, curriculum at 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, all of which not only improves our teaching, but enriches and motivates ongoing investigation. And so the cycle continues.

CR: Today, our guest is Dr. Thomas Fergus, Associate Professor of Psychology at Baylor University. Dr. Ferguson's research focuses on gaining better understanding of anxiety disorders and Obsessive Compulsive Disorder and the connections between psychological disorders and metacognitive beliefs. A published author on multiple studies related to student test anxiety, Dr. Fergus joins us today to talk about student mental health, well-being and the implications for teaching. We are delighted to have Dr. Fergus on the show. Thomas Fergus, Thank you so much for joining the show today.

TF: Yeah, thanks for having me. Happy to be here.

CR: So at the time of our recording here we are about eight months or so into the coronavirus pandemic, which has of course blown up a lot of, a lot of people's work and how we do, how we do things professionally. And this is certainly the case in higher ed as well. There's, I think, has been a lot of talk and certainly a lot of concern and writing about mental health for students and for faculty. What are your, what do you think the most important student mental health issues that faculty just might not be aware of?

TF: Yeah, so during times of covid it I would say reduced social connection and loneliness are probably going to be main ones. I think they're gonna be present regardless of covid times, but told isolate, quarantine, distance from others is now sort of recommended practice, right? And so I think the recipe for loneliness and reduced connection is going to be a major factor driving things. There's also high levels of uncertainty. We know when uncertainty is high, anxiety is likely going to increase as well. So anxiety is likely going to be higher. And it, it could be anxiety about coursework, but it could be more diffuse, right? Meaning nonspecific. It could be just—the world around us seems much more chaotic, less predictable. You know, are we going

to go in to another shutdown? Am I going to get sick? Is my roommate gonna get sick? Am I even going to be able to finish the semester. All of these things I think are recipes for high levels of anxiety. This possibility of loss, right? A loved one gets sick and ill, could be higher on their mind. And we know that depression is often tied to a sense of loss in one's environment. I think the environment is one in which you're looking at a high time of mental health concerns. In terms of what faculty may not be aware of as much is just, I think it could run the gamut. And so I think part of it is that someone may present to you as an authority figure or someone in a position of power, compose, but they may internally be struggling a lot in their personal life.

And I think it's very difficult to tell the students who may come to our attention the most. Maybe struggling a lot. They may appear more dis-regulated emotionally. But it doesn't mean that the people who are composed are necessarily doing well if that makes sense, so I think that becomes a tricky balance, that just because the person seems emotionally stable and they're interacting with it does not necessarily mean that they're not struggling internally in their personal life. They just maybe there are better able to inhibit that or prefer to inhibit that. Or they may be simply not comfortable expressing that to others.

CR: You mentioned anxiety and I'd love to just kind of drill down on that a little bit, both because I know it's one of your areas of focus in your scholarly work, and also because I think just from media and, and popular culture right now we're hearing more about anxiety. So what are the differences that we ought to know about sort of the clinical definitions of anxiety and how this word and maybe synonyms are used in the popular sphere.

TF: Yeah, great. So anxiety, people are probably often using as a description of that there's a lot of stress, stressors or perceived stress in their environment. A hard thing with anxiety is that on some level it's actually adaptive to experience, right? If I'm somewhat anxious, it's probably going to lead me to prepare a little bit more, try to anticipate ways that I may be able to problem-solve or intervene. If I'm not anxious at all, I may I may have taken more relaxed approach. I may not prepare as much. Now if I'm too anxious, I'm probably going to become more likely to be over consumed by that anxiety. Over consumed in the class, in the context of class, that may be difficulties concentrating in class because my mind keeps going back to all the threats or the potential threats in my life or what could be present, it may lead me to choose to procrastinate more. So when you think about like, clinically severe anxiety, a lot of it relates to your preoccupation with whatever the perceived threat is and your perceived ability to be able to control your anxious thoughts or just your general response to your anxious thoughts. What I mean by that is, you know, the person who is likely having clinically severe anxiety is likely spending much of their day thinking about potential threats. They're not able to effectively disengage from those thoughts. And so those thoughts tend to then impact their mood. They tend to report greater, for example, somatic symptoms, upset stomach, difficulties concentrating, stuff like that. And they may have difficulties than participating in coursework.

They may have difficulty studying at home because when they're in those environments, they may be more apt to become captured by their anxious thoughts and they're anxious feeling states.

They may also choose to avoid elicitors of their anxiety which can have a short-term benefit. But the more we avoid generally the worse anxiety ultimately sort of becomes as well. And so I think a key thing is that we're all going to experience anxiety. It's more what we do with it when we experience it. And it's also a lot about how frequently we experience it as well. For people who have clinically severe anxiety, they're going to experience it more often. They're going to respond to the anxiety was something that they're trying to change it almost all the time. So if, for example, we're doing this interview right now, if I'm if my mind goes to is my son's safe right now at daycare, it's probably adaptive for me to try to push that aside temporarily and focus right now on our interaction. If I always, when I'm anxious, try to push it away, that's probably not a good thing in the long run. And so I think there's a difference between like strategic use of avoidance versus habitual or always trying to avoid. And so I think the people who are most effective are more likely to strategically avoid rather than habitually avoid. Like if they're in class and they have an anxious thought, it probably is strategic in that moment to push it away and try to refocus back on lecture. People who are more able to effectively do that may be more successful in class, for example, and to be able to engage with lecture.

At home when they're reading, their text at their mind wanders to anxious content, It probably is adaptive to some degree to strategically avoid that and refocus on the texts that they're reading or studying. If you're always doing that though—So even outside of times in which the environment is saying I need your attention right now—it's probably ultimately not all that effective to always avoid. Some of that comes through experience, training, meaning like therapy and the life learning to be able to more flexibly relate to your anxious feelings or anxious thoughts. And I think that's what we often see with clinically severe anxiety is people habitually use these strategies.

There could even be substance use as well: Alcohol, marijuana or cannabis use, prescription pills, stuff like that, can be ways in which people try to avoid more habitually in the long-term their anxious feelings.

CR: So you started touching on the ways that these mental health concerns might manifest in student performance with loss of concentration, procrastination. What seems difficult from a faculty perspective is that many of these things are kind of below the surface there, they're a little bit hidden from view. So is there any way to help faculty be more sensitive to, to knowing when things are, when things are reaching a difficult point for students?

TF: Yeah, that's a real tricky one, right? Because I don't think you want to go out of your way and try to over pathologize a student's experience, right? So to reach out and say, I think you're really anxious could be very invalidating to the student and also very shame producing. There's a lot of stigma. I think stigma is improving with younger generations, but there's still a lot of stigma around mental health concerns. And so the student may not want to discuss it with you. And so I think in my experience, you want to tread lightly and follow the lead of the student

when appropriate. I think if a student expresses those concerns, referring them to the counseling center is something I would—So students in my class, you know, I'm a clinical psychologist by training, I'm teaching abnormal psychology, and so students at times may feel more comfortable thinking that, you know, I'm a mental health expert. If a student comes to me, I'm not the one there as their instructor to process difficulties, I'm more apt to refer them to the counseling center. So I think you, you as the instructor, want to be cautious about trying to play a dual role right here. You don't want to be their therapist either by their belief or by your actions in my opinion.

At the same time, you want to be appropriately validating and not dismissive of concerns. I think that's also a really tricky balance that it's almost hard to describe and it's more through your own personal experience and what you feel comfortable with, you know, the counseling centers available and stuff like that. So what I tried to do is I try to go based on class performance. Actually, that's not a great marker of distress. But as an instructor, that's how I sort of base things and so if students are struggling, particularly if there's concerns about them passing the course. I really want to try to set up meetings with them. And I try to get a sense as to what's going on that's getting in the way of the Course Performance. If they're reporting emotional difficulties, That's where I'm at to then say, you know, you don't need to tell me if you're already going, but you may consider going to the counseling center for additional resources for coping with or talking to someone about emotional difficulties and stuff like that. I think, you know, you're there to try to move them along the pathway towards seeking out help rather than being the person to intervene, meaning being the quasi therapist. I think it's really difficult. I think individual meetings where you try to get a sense as to what's going on. So students I interact with, they may be studying a lot, but their study time may not be well-spent, right? If I'm so anxious, I could be studying in the library for hours at night or studying it my residence for hours a night. But that hours of time I maybe spent--I'm just guesstimating--60%, 70 percent of that time maybe on anxious thoughts. And I may not really be studying very well and only a small fraction of that time may be well spent. And so it gets into some complexity, unfortunately I don't a great answer—a one size fits all, do this—as much as think about yourself being really someone who can help validate and say, you know, there's a lot, I mean, another approach I do hear some people taking with covid times is sort of acknowledging that this is a really stressful time for everyone. And to try to see if that helps break the ice for students to disclose. I find individual meetings to be much easier for students to disclose than if you're trying to do in the classroom. Because in a classroom you have 15-20 other people plus an instructor. I think the instructor can be difficult enough because there is a power—You're evaluating them—And they don't know if you're going to stigmatize it. They don't know your belief on mental health concerns. And I think the student who's willing to express that to a faculty member is putting themselves in a very vulnerable space that we may not view is vulnerable, but it is because they're saying to someone who's evaluating them, I'm struggling with something that I have no idea if you're A. accepting of or B. what your viewpoint is more broadly on that and how that may impact your evaluation going forward. And so I think the broad takeaway is understand that they're in a vulnerable spot by discussing those concerns with you.

And I think it's easy for us to say, well, you know, I'm a caring person. And so they should naturally feel comfortable with that. They don't, they don't really know us that well, is as much

as we want to have a caring environment. We're still a person in a position of power who's evaluating them. And there's always going to be that divide there.

CR: One of the markers that I've noticed just in my time teaching that often can correlate with students social or emotional or mental health problems is attendance, especially if they miss a test day or something like that. But of course from a faculty perspective, the tricky part is that we don't always know why they're missing. And sometimes I think unfortunately we don't give students the benefit of the doubt that there's some real valid health reason for, for either a fall in attendance or missing some really important event like a, like a, an exam. So are there other ways that we can kind of be on the lookout for things that, again, like you said, we shouldn't pathologize and diagnose, but just things that should be on our radar in terms of student behavior.

TF: Yeah, class performance. I think about engagement with class with covid times. It's harder, right? We have in-person classes, but attendance still really is pretty low I often find in in-person classes. Engagement with class is hard in the sense of, you know, students could be, we don't want to pathologize introversion, right? The student in class who's not talkative could be just a very shy individual. And if you get them one-on-one, they may be more talkative. So I think it's hard with class engagement if you have required class activities and the person seems disengaged in class, that could be a sign of concern given that, you know, if you're introverted, but you're given the opportunity to speak, you may not like it. It may be distressing to you, but the hope is that with time you start to be able to participate more. And so I think you know, you just want to sort of take a look out on things. And again, I think the main thing is I would encourage people to tread lightly and to try to ask questions rather than make assumptions right.

I think saying I'm concerned about your performance or your attendance and your engagement in class is a great opening question Because there could be a number of reasons for it. It could be-- you're not asking, you know, you're not saying this is what I think is going on, but you're giving them the space to potentially tell you if there are mental health concerns and you can go with that. They very well may not share any. There may not be any at all. But I think some open-ended question or just a general statement that you're concerned about their performance and stuff like that, That's inviting the possibility of a conversation about what may be contributing to their difficulties. I think that's often the best we can do.

CR: And by and by doing that, it's also, it's making it a little bit more objective. You're just, you're just noticing, you're noticing performance, you're noticing behavior. You're not accusing the student. Or it might feel like an accusation, you know, if you were to personalize it too much.

TF: Yeah. Sleepiness or just sort of like if a student is on their laptop, for example, when you allow that for note-taking, and it appears like they're on that for 90% and not really engage with material. They're sleepy during class or through other phone most of the time, those are behavioral indicators, but they're also nonspecific. I would say the vast majority of students probably at times are doing those things. And so unfortunately, when it comes these concerns, there are no real specific clear-cut signs. As we sort of talked about and that makes it difficult as an instructor for trying to assess, you know, what, what maybe going on.

CR: Maybe we can think a little bit more globally too about this. College, of course, is for many students just, just stressful by its nature: there's so much that's different, the traditional college age student is sort of on their own-ish for the first time, having responsibilities that they haven't had before, having expectations that they didn't have on them before, meeting lots of new people all at once. So just the college thing itself is a stressful thing. And now we're dealing with that, with, with the pandemic on top of that. But then there's also something that I see often in the little reading that I do about this that is more focused on the developmental aspects of this. That there is, that there's also correlations with people at this age—that traditional, what we used to call traditional college age any, I know it's not so traditional anymore, but at a place like Baylor, we still do have that in normal, like 18 to 22 to 24, sort of majority. So what are the things that are happening there that make that time distinct for our college students.

TF: Yeah. You've hit on a number of ones in the sort of question and thoughts. Independence is the main one. We also feel a lot about identity formation and development at that age because with that independence, the individual at 18-years-old moving away may have largely been defined in part from their immediate family unit, right, their parents or caregivers or whoever. And now they're away from them. It's like who am I now right and that may not be a question that they fully thought through or maybe they don't even consciously—by consciously, I don't mean it's an unconscious, not accessible, but they may not deliberately think about who am I even in college, but that's really what it's about, right? You're trying to form new friends. You're trying to pick a major potentially at field of study what you're interested in. And it's often set the stage of, you know, in four years you need to know what you want to do with the rest of your life for the traditional student. And it may be five years and six years for others, but you have this time limited period to know what you want to do. And then we started thinking about the possibility of long-term romantic relationships, marriage potentially, families, all of this stuff is happening in that age range. I know some of that we're seeing age shifts or people are starting to think about those a little bit later. But so much is going on in that phase where you're trying to figure those things out. And on top of that with meeting all those new people and trying to figure out sort of your identity potentially independent of your immediate family unit, you have a high potential for concern of evaluation, right? Are people going to negatively evaluate me, if they reject me what's that going to mean about me--about me as a person? And stuff like that. And I need to achieve well in my classes to be able to get good grades or potentially go on to graduate studies or get that job placement. And so all of those are very, very unique to the college years and very formative for identity development.

And I mean, that's just ripe for uncertainty, anxiety. When you have barriers in your life, all of us will, right, stressful life events. They often come a lot during that, you know, there's a lot of instability. Your classes are always changing, your schedule's always changing, right? I'm now in my mid-thirties. Yeah. I mean, my schedule does change but it's also pretty fixed. My life is a lot more stable on a day-to-day basis than it was as a college student where it seemed like, you know, I have classes and stuff, but there were extra curriculars and there was study time and I'm hanging out with friends. It's like things are much more unstable on a day-to-day basis. And that's just, you know, we know that schedules and stability tend to lead to better emotional stability as well then more of the chaotic uncertainty of things. I think add covid on that obviously and that leads to even more uncertainty, more anxiety. But I think the college years, there's a tremendous amount of uncertainty and with that uncertainty, you're going to have higher rates of anxiety than you would naturally other, other period of times during your life. There's loss, right? As parents age, as family members age, there's higher likelihood of physical illness and death potentially to loved ones. At higher rates you're potentially experiencing those maybe for the first time in a substantive manner. And that is going to be a new event and you're potentially experiencing those things from afar, depending upon how far away you live from home, right? The loved one who, who lived in your house or within the same city as you who passed away or is going through a physical illness, you're now far away from them. And that can lead to feelings of sort of helplessness or not really being able to connect, then we start talking about sadness and depression. And so I just think there's just a whole host of life events that are very much specific to that 18 to 22, maybe now a little bit later for some of the other ones. But that young adulthood, 18 to 25, 18 to 28 range is, is just a lot of events.

CR: Some of these things can be--can have kind of a cumulative or, or snowball effect too. I think about the issue of independence. For some, independence is felt as liberation. But for others, independence or maybe for the same person at different times, independence is, is experienced as insecurity and a real lack of certainty. And then on top of that, independence can also lead to certain behaviors that are not necessarily healthy; and I'm not even thinking of anything all that serious--What comes to mind for me is the fact that we know that one of the peak times for learning management system, like our canvas use, is like 2AM. And that clearly is correlated to this, this new, this new independence that students have. No one's telling them that they need to be in bed. Maybe they don't have an eight o'clock class, so they feel like they can sleep in, and so their schedules get all wonky. And that in itself is, over the long-term, that's unhealthy and I'm sure has correlations with mental health issues more broadly.

TF: Yeah. I mean, when you look at synthesis of existing data that look at correlations of GPA, for example, something like emotional instability, neuroticism of what we [inaudible]--And that's the tendency to experience anxiety symptoms, depressive symptoms, stuff like that, actually shares no correlation with GPA. And that might be a surprise to people. What does, though are more of the behaviors that you would see for some people who are very high in those--procrastination, for example: the more you procrastinate, the lower your GPA is, right? And so procrastination--the person's going to Canvas at 02:00 AM, he may have procrastinated that activity, right? If I'm looking at video views of my lectures, probably the highest views are the day or two before the exam in all seriousness. That to me I would qualify as procrastination,

right? The best way to learn is probably more paced learning across the unit before the exam rather than trying to do it all, cram, two days before. And so I think procrastination really is often a behavior that can manifest from anxiety symptoms, depressive symptoms and things like that. And so--but it also gets back to more like the optimal balance that we can't calibrate, right? I can't say, "Well, I want a modest amount of anxiety and so I'm going to calibrate it that way." You know, there's a lot of factors that go into that, but yet the behaviors are so critical when we think about academic performance. Procrastination is, is really a big one that we see. And it does, it does speak to, a lot of ways, sticking to a schedule. I think sticking to a schedule is really, really helpful and useful when we think about academic performance as well as mental health functioning. And part of what sticking to a schedule does is we may not always feel like doing something. And it's saying, "well, I don't really feel like going to class today. I'm still gonna do it anyway." And that has benefits. Because even if we didn't feel like it in that moment, we're likely going to get more from the class and be more prepared. We're going to also then feel like we did something with the day. The people who skip class, a lot of them probably proceed to perseverate or dwell on missing a class or worry about the implications. And then they may procrastinate further by going to have lunch or go do something like that, which isn't a problem. They may go try to distract from actually skipping, procrastinating, skipping class and that may snowball even further. And so we know a lot about schedules, particularly in the treatment of depression, for example. Behavioural activation: the simple version is you stick to activities even when you don't feel like it in that moment—activities that you know brought pleasure or are really important to things that are central to your life right now. And so sticking to schedules, exercise, stuff like that, have mood-alleviating facts. And that doesn't involve necessarily attending therapy, doesn't involve taking medication or anything like that; sticking to a schedule, getting good sleep as well, and schedule often goes along with sleep, right? If you're able to stick to a good schedule even with sleep, that's going to have mood-alleviating effects. I think schedules are really, really important.

CR: I know you've done research on correlations or connections between some of these mental health concerns and religious beliefs. And at a place like Baylor with a Christian mission, of course, this is something that we talk a lot about as well--how to integrate some of these things to make sure that we're not treating students as just brains or pathologies, or, how do we bring spiritual life as it were into this as well. So what, what are your thoughts on that?

TF: Yeah. So I think that the literature is pretty mixed as to whether religiosity is a broad variable, is of benefit, a protection, or if it, in some cases can be a hindrance or even a vulnerability for anxiety, for example. And a lot seems to be what the person does with it and their general beliefs about those experiences. So for example, if I view anxiety as a sin because of religious beliefs, it's more likely to be a vulnerability because I'm likely going to struggle with that anxiety based experience. If I view religion and my engagement with faith as a potential coping, and it allows me to better cope with anxiety or allows me to do things that we know are protective against anxiety and depression--social connection for example, right--So people who feel more connected because of their religion, faith, congregation, those have protective factors against psychopathology. If it leads me to think, like develop a sense of efficacy around anxiety or depression, or more acceptance of the self, because of my religious beliefs, it's probably going



to have a protective factors. I think a lot depends upon the individual level, how they use or how their religious beliefs or practices, either directly--meaning how they relate to that experience-or indirectly through things like social connection, community outreach, right? Community outreach may not directly change your depressive symptoms or anxiety symptoms, but you're more likely to have social connection. You're more likely to have a sense of productivity and giving back. We know those feelings, those perceptions often are protective against long-term feelings of anxiety and depression. So I think religion can have a number of different roles and it can be both protective in vulnerability. This is a hard part as an instructor in the sense of if a student comes to me, and they have a diversion viewpoint on psychopathology, abnormal psychology, in terms of viewing it potentially as sin, right, and I don't view it that way, what do I do with that? And again, I think being validating about different beliefs, while still not saying that "your belief is the right belief" or "their belief it's the wrong belief," I think is important. I think saying "No, here's the perspective I come from. I can understand why you may hold that belief" and trying to present them with different information and not say that your belief is the right belief, is probably the best thing that you can do. To me, I don't think we're in the position as instructors to say one belief is *the* belief to hold. I think it's more tried to promote diversity in the context of how you view religion in this case, or faith, interfacing with anxiety, depression, substance use and down the line, and working from that angle. I think oftentimes, it's hard though if the student is coming to us as an expert, taking the stance of rather than one size fits all, say that the world is complex and there's a number of different angles to take and to try to go from there. I often, if they have those, I do refer them more towards people on campus who are better equipped to respond to those questions. And I sort of, I think that I, I often hold I'm not an expert in religion, faith by any means, but I think people who, that's their expertise, are often better equipped to have those conversations that I am.

CR: You mentioned, like the community aspects and the activism aspects that are oftentimes bound up with religious belief as well. So at the risk of maybe overly secularizing people's faith, what comes to mind for me is a connection to routines and schedules. So if you establish religious meet gatherings that you're going to go to or you've got a set of practices that you do every day, this can be part of that kind of stabilizing routine, I would think too.

TF: Yeah, absolutely. Again and again, this is something that I think Covid impacts as well, routines. I think about church attendance just for my family. Pre-Covid to Covid-- where now it's on zoom—we're less likely to attend. It was like a weekly event. We went and saw people at, you know, part of the congregation, and on zoom it's, it's a different connection and feel, but you're right. Routine: It could be prayer routine, it could be Scripture reading, it could be Fellowship routine. All of these can potentially become either daily or weekly events that foster connection both with yourself and supernatural higher power, but also yourself and others in your, in your sort of fellowship group. And I think those are really important for that routine as well.

CR: Well, this is probably a bigger topic than we have time for, but I know you've done some work on test anxiety.

TF: Yeah.

CR: So I'm wondering if for our listeners who are just sort of unfamiliar with this as, as a, as an established thing. Can you give us just kind of a quick explanation of what this is and how our, our students might be experiencing this?

TF: Yeah, there's a lot of misconceptions about test anxiety. A lot of people—and the debate still rages today. Is this a real concept? Or are these individuals who are simply unprepared for an exam? And I think what we now know is that it's a real concept, meaning, it exists. It's not simply “Are you prepared or not”; test anxiety would be, you have prepared for the exam and your performance on the exam, because of the anxiety that you're experiencing around that evaluative situation, is actually worse than what your knowledge actually would suggest. Meaning your performance is substantively lower because of your experience of anxiety during the examination period. And so it extends beyond preparation. If someone was not prepared and was anxious during an exam, I would expect her performance to potentially be lower than what it normally would be. That's someone who is not prepared. Test anxiety is really around someone who's prepared and is not performing up to their knowledge that came from that preparation because of the anxiety that they're experiencing in the moment. What does it look like for someone who is test-anxious? They're very, very concerned about evaluation. And the implications of that evaluation for them as a person, does it mean that they're stupid, for example? Does it mean that the instructor is going to think that they're incompetent or unprepared? Does it mean potentially that they're not cut out for college or the major? Does it mean that they're not going to pass the course? All of those are common concerns and they occur for an exam. They occur after, during an exam. In particular, they occur after an exam. The, the moments that we're particularly interested in for the test anxiety research is the moments during an exam. What happens during exam that leads somebody to not prepare as well or performance well, I should say. And a lot of it, what we believe now is that it impacts your working memory and your ability to control attention. So if you have really, really good working memory, which is your ability to extract and mentally manipulate information in real time--if you have really, really good working memory, your test anxiety may have more of a subtle—it's still going to impact you--but you still can perform relatively well if you've prepared and have that knowledge because you still have the capacity to offset what the test anxiety is going to impact you in that moment, right? So if I'm really anxious in a given moment, I still have a really, really good working memory, which is an individual difference—we're all different in our working memory capacity. And I'm still able to relatively well extract what I know, what's being asked about from an item, and respond with knowledge that I've acquired. If your working memory is not as strong or your test anxiety is so severe that your working memory in that moment is really impaired, you're going to struggle to meaningfully read the question, apply that question to then extract that knowledge in real-time and then apply that knowledge that you've gained to answer the question as effectively compared to peers who do not experience test anxiety in that moment. We also know that test anxiety can lead to much of what we talked about at the beginning portions, where you're gonna have difficulty concentrating, studying. If you're preoccupied with studying for an exam, you're gonna say, “I'm gonna fail the exam anyway, why should I study?” It's likely going to lead to procrastination as well and other forms of avoiding coping. But during that exam, your performance will be impacted, and negatively so, independent of how you've

prepared, you can prepare great and struggle. And this makes sense--when students come to me and say "I've experienced test anxiety," they often report sort of blanking out. Right? "I knew I knew it in the moment. I could not think of it." And at times, having more knowledge, I do ask, "Okay, tell me what you"-- I didn't say "were you thinking about your performance?" but "well what was your mind going to during the exam?" It's often about these evaluative concerns. And what happens oftentimes is, Question One, they don't know the answer to--immediately it doesn't come with their mind and they start worrying. "Item one." "Oh, no, I don't know this item. Am I not going to know the next?" They might start leafing through and they may start focusing on all the items they do not know immediately the answer to or how hard it is. And their mind starts to become preoccupied with what they don't know and all the impacts of that and the potential exam grade. And that's it's detracting from their ability to process the information that they do know and effectively apply it to exam questions.

CR: So any advice for faculty about how to help students with that? Or is there something in the course design or anything like that that can help alleviate some of these things?

TF: I do think something like drop your lowest exam during the semester can be useful where it can ratchet down the pressure at any one exam. What I do find though is if a student does not do well on one exam, they then start to really become anxious about not doing well in another because they can drop that one, and then they have another slip up, that one's going to impact it-- So I don't think it's a sure-fire way. I do try to make sure there's plenty of time to finish an exam, so it's not like a crutch or rush to finish it. Knowing that if they have enough time, that maybe that helps reduce the impact that anxiety may have or they're still able to finish the exam and get through it. That said, the people who are very high in test anxiety tend to often perseverate on questions as well. And so the additional time is not often a sure-fire either. They may start to perseverate on questions. "Second guess," I often hear from students as well who experienced that perfectionism, that real heightened concern about evaluation achievement. So there are no real sure-fire ways to reduce those concerns. I struggled with something that you raised early on about knowing that there could be broad reasons why students may struggle or miss an exam. What do we do with that? Ultimately, you know, I adhere to the syllabus and the syllabus rules. And so you can be empathic and validating towards the student who says, "this was going on. I didn't do well on this exam." The question is, what do you do with that? I mean, you could say, "well, you can take this, but I'm not giving that accommodation to anyone else." I mean, that seems unfair to everyone else who may not who may be going through difficulties and does simply not feel comfortable telling you. So I really struggle with, you know, what to do with that. So I'm one who may be a little bit more hard line by saying we're going to follow the syllabus rules, you do have a dropped exam. I've made sure these exams you can finish probably in a 50 minute class period. You probably finish in 25-30 minutes easily. For those who want to take 50 minutes, that's great, but you're not going to be in a time crunch to be able to do it. I do try to give hints for studying and I try to spend a lot of class period about how to study for exams and stuff like that. Ultimately, I think that's really right now the best we can do. The students who are experienced in high test anxiety really are going to benefit most from seeking intervention, the counseling center, for example, to really reduce that. You can only, in my opinion, do so much as an instructor. I try to emphasize how exam performance is not diagnostic of ability per se. It's more about testing what you, how you've prepared. So I try to make it less so personal. I think the student who's prone to test anxiety, the faculty member who says,

hypothetically, “everyone who failed is stupid or incompetent.” That’s just confirming the fear. And that's going to heighten the test anxiety even more. The faculty member who says, okay, “exam one has no basis--it's going to impact your grade. But exam two is independent knowledge. And try a new approach to studying in, in preparing for exam two, what happened on exam one,”--assuming we have no dropped exam—“is going to impact your course grade, but you have plenty of opportunity to, to change course going forwards.” I try to, I try to emphasize strengths--what the student can do going forward, right? I had. So we're now, we just finished exam four in my class, it was five exams and a final. And there were students who were not doing well after exam three, and were really concerned. I said well look, you've got a dropped exam--assuming you're going to use that already—you have exam four, five, and the final--that I said, that’s at least half the course points are remaining; what can you do going forward to maximize? I think students when they start struggling, it becomes, “I can't do this”; for the test anxious student that just fuels the fears that they have. And so I think there's more subtle things you can do is instructor, is there a one-size-fits-all? No, unfortunately.

CR: It doesn't take teaching too long to kind of encounter the student who after, after a poor performance will say something like, well, I'm just not a C student, I don't understand this. And so you see really quickly that something deeper is going on there where they're, they're wrestling with how to reconcile performance and identity in a way that they probably haven't been challenged to do so in the past.

TF: Absolutely. What does the student do with that mismatch, right? So “I’m not a C student and that's what I'm getting,” do they renew effort to then get closer to their ideal knowing that they may not be able to achieve an A grade, but maybe if they apply themselves, they can improve up to a B? Or are they resigned and say, “I just can't do this” and they have a C or potentially drop lower and fail the course. I see that as well--the same thing that you're describing--and I try to focus on “what can you do going forward?” We can't change the past. And that's really difficult, right? I think about classes, you know, early on that I took where I may not have achieved as well early on. And what do you do? You don't simply say, oh, that doesn't matter. But what you are saying is that, going forward, you have an opportunity to make changes. Let's try to work on strengthening your grade rather than staying in this cycle of “my identity is, ‘I'm not a C student.’ You're telling me that I am or my class performance is telling me that I am and I can't deal with that, so I'm going to avoid or procrastinate.”

CR: Well, there's so much more that we could talk about here, but unfortunately, we are out of time. So I want to thank you Thomas Fergus for joining us for this conversation today and we're delighted for all the work that you do and for the insights that you've brought here today.

TF: Yep. Thanks, for having me, Christopher. Really enjoyed it.

CR: Our thanks again to Dr. Thomas Fergus for speaking with us today. If you'd like to learn more about the benefits of “spacing learning” as opposed to procrastinating or about Dr. Ferguson’s research, see our show notes. And thanks again to Nick Townsend, Baylor music composition graduate student for this shows theme music. That's our show. Join us next time for Professors Talk Pedagogy.