Corey Powell: Hello. Welcome to "Teach Strong," the podcast about teaching and learning for the Armstrong campus. My name is Corey Powell and I'm an instructional designer at the Center for Teaching and Learning. Today with me is Josh Lambert. Hey Josh.

Josh Lambert: Hey Corey.

Corey Powell: Josh, what do you do at Armstrong's campus?

Josh Lambert: I'm Math Department faculty and so I've taught a wide array of courses. I think I'm getting up towards 25, 26 different courses thus far. A mix of online, and face-to-face, and blended learning.

Corey Powell: Awesome. Well, speaking of the online and blended, that's kind of why I had you here today. I want to talk about engaging and effective online teaching. I've had the pleasure of working with you on a couple of courses before, so what do you think an effective online course should look like?

Josh Lambert: Yeah, so I'm looking for different modes of interaction, so we're looking for student self-assessment, peer assessment, and then instructor assessment. I do that through many different modes such as video, trying to have some quizzes embedded inside of those videos. Then some discussion board postings, where we have them interact with each other, along with homework, especially in mathematics. I need to get them down, and writing the problems and actually working on the math problems. I try and embed as much of that into the course as possible.

Corey Powell: Okay. When you began planning these courses, what do you think effective online courses ... How important do you think them being attractive matters?

Josh Lambert: Oh, I think, especially math, you have to have the students buy-in.

Corey Powell: Right.

Josh Lambert: If we aren't having the students buy-in and be motivated, I mean, it might be a little bit easier in some cases for your majors, but for those, we teach a lot of service courses like Quantitative Skills and Reasoning, College Algebra, Pre-calculus, even Calculus. In those courses, you have to have the students buy into the material, what's the worth of this material? I try to embed, as you've seen and worked with me on a lot of times, put a lot of real world situations, if possible, into that course and try and get the students motivated.

Corey Powell: Cool. You think that helps with their interest is when you add that real world? Because I know that's the big question, right? It's one of them, especially in math.

Josh Lambert: Right, yeah. We get that all the time.
Corey Powell: Yeah.

Josh Lambert: Yeah, that's something we try and be very consistent in showing ... Obviously, you want to get the theory, that's our main purpose, but trying to get some motivating factors, I think that's extremely important in the online learning atmosphere.

Corey Powell: What about like navigation through the course? Just you've got to kind of assume every student hasn't been in an online course before. How much time do you dedicate to showing them how to navigate and find things?

Josh Lambert: Right, so I mean I have a pretty standard ... You've helped me tremendously with that along with the whole Department over here. Just having that standard, "Here, let's get started. Start here," and go through that part of the course, and that's the beginning part. That's that first module. Kind of getting just used to the online learning atmosphere before they get into the content. That's a key component. We want them to navigate it, and navigate it easily. If they can't get to the course and find, "Oh, where my homework assignments are?" or "Where do I need to watch this video?" That's a big issue and so that's where ... Your Department's done a great job helping me, assist me in that process.

Corey Powell: I think you have a great intro video too, where you kind of do that first day of class, when you go over all that stuff in a face-to-face class. You're still giving that material online. How do you let students give you feedback though if they have a question? Because I know face-to-face, they can raise their hand or you can kind of see their expressions on their faces. How do you fill in that gap?

Josh Lambert: Yeah, very good question. I mainly use discussion boards for that purpose. I have actually a mandatory and an optional discussion. The mandatory discussions are more along the lines of where they can ask those questions within each module, or there's an overview section where they can ask, discussions frequently. That is post after post after post of students just asking some sort of problem. On the optional side, that's more of the real world application. I'll give them more of a question to try and get them thinking about how they can start to apply things, so that's the big place where questions come about. Those are two of the many modalities.

Corey Powell: Okay, so even in your syllabus, and all that stuff, there's a place for them to ask questions.

Josh Lambert: Oh yeah. Most definitely.

Corey Powell: Can other people see their questions?

Josh Lambert: Oh yeah, yeah. I try to keep it open and that's part of that peer-to-peer instruction. Sometimes, actually quite often, students are on there very quick.
Usually they start looking around midnight, 1:00 a.m. You'll see there'll be a post, and two minutes later, there'll be an answer, just like that. That's a big thing that I like with the discussion board postings. Especially math, that's not always, it doesn't seem natural but explaining their work to each other, that's where they're really going to learn, in giving a good explanation.

Corey Powell: That makes sense. It's also kind of getting that higher order of thinking rather than just answering problems.

Josh Lambert: Oh yeah, most definitely.

Corey Powell: Going to content discussion, how do you kind of find that balance? Because I know if a discussion is too guided, then it's no more than just answering questions out of the textbook, and their replies are very scripted to one another. If you don't give them any guidelines at all, then it's a free for all, and you might not get the material you want, so how do you kind of find that balance?

Josh Lambert: Yeah, that's a tricky balance and I wish I had a great answer in terms of-

Corey Powell: Oh, you wanted to solve it today?

Josh Lambert: Yeah, yeah, so I mean I try and always keep it somewhat open ended where they have a little bit of flexibility, and we aren't having a streamlined answer. I'll use an example. In one of the classes, Quantitative Skills and Reasoning, we talk about modeling like a savings plan formula. One of the problems is "Who Wants to Be a Millionaire" type problem, where what would it take with your investment strategy to become a millionaire? How long does it take? Everyone's going to have a different answer and how much amount they put in.

We're trying to see, can they use that model? Can they use that model to find a solution of some sort? There isn't a canned answer, and everyone can kind of feed off one another. Also, we're looking for feedback from students in that question. The students will be replying with say, "Oh, you might need to tweak your model, you're a little bit off" or "Oh, this looks great." They're giving each other feedback as to are they using the model appropriately? That, once again ties into the real life scenario, right?

Corey Powell: Yeah, and that kind of gives them that progress check too that we need.

Josh Lambert: Yeah.

Corey Powell: What about if they're collaborating, if they're collaborating on the same problem?

Josh Lambert: For the discussions, I'm actually looking for that. I want to have a discussion, right? That's the whole idea, we want to have some collaboration. I'm actually
fine with that. Some people might have different takes but for me personally, I want to see them collaborating, after they make their own attempt on a homework problem.

Corey Powell: Fair enough.

Josh Lambert: The big thing there is I want them to be discussing, the more they're talking about mathematics, and granted it's through discussions, the better off it's going to be for all of us. The more time they're spending on the problems, and spending on the material, the more they're going to understand the material.

Corey Powell: Right. How involved do you get in these discussions?

Josh Lambert: Depends. Usually on optional discussions I try not to put my foot down and say, "Oh, this is exactly the way I want those to be." Very open ended in terms of how do they manipulate it to the real world. I might make a suggestion here and there, but usually I try and lay off on those. The discussions, in terms of the regular postings, if they have a question, I am back to them 24 hours max so yeah, I'm there all the time helping out as much as I can.

Corey Powell: In having an effective online course, how important do you think having that instructor presence is?

Josh Lambert: Well, I think it's extremely important. I mean, I think a lot of people become afraid of you can just set it and forget it, and then I don't even need to be in the course in terms of, you have this course and anyone could come teach it. I think the big component is being involved. I mean a lot of people ... We've discussed many a times where we need that teacher interaction with those students. Especially getting through those different parts that might be difficult for those students.

Corey Powell: Yeah, because there's a lot of great resources on the Internet, U-2-Me and Lynda.com and all these ... There's some really cool things to learn some little basic skills but we want to be careful the online learning doesn't go to that, where it's just really, it's just delivery, there's no interaction, there's no engagement.

Josh Lambert: Right.

Corey Powell: I mean it's great if you're picking up a little skill or something but we really want ... If you're coming to college, you really should be getting a professor's opinion and assistance on stuff.

Josh Lambert: Oh yeah.

Corey Powell: What kind of strategies have you seen that really work well for you in an online course?
Josh Lambert: Actually, I'll be honest. My courses evolve quite frequently. You and I have discussed, in terms of what I like to get to is more of a personalized sort of instruction versus the one size fits all. I think that's a big problem in our system, is we need to start personalizing instruction. I'm trying to build to that slowly but surely. I mean, you can't do all of it one day, so it takes time, but getting towards that, I try to make the progress slowly but surely.

Corey Powell: Yeah, nice. Do you mean kind of like an adaptive learning model?

Josh Lambert: Yeah, so more adaptive learning. I try ... For example, I'll use a Calculus course that I'm teaching right now for example. You'll have students, the calculus might not be the problem, and so what I'll try and do is I'll look at their problem and I'll try and identify it real quick through discussions. I'd also like to have it where I can have some remediation materials for them to go back to, and if they know that's where they're struggling, they can kind of have that piece, that component where they can look and have that, whereas another student might not need that.

Corey Powell: Right.

Josh Lambert: I'll answer those questions, I'll field them and if they're showing the work, I can see that very quickly. I like to have it where we can modify that for even quicker response times, that would be the idea.

Corey Powell: Yeah, I think that would be awesome. On that, with math, how do you get them to show their work, like how do you see that? What kind of ...

Josh Lambert: A lot of the students, they've been very good this semester. They'll post pictures of their work or they'll type it in. Sometimes that can be tricky with some of the mathematical typesetting, but they get the hang of it, especially with some of the homework systems and things like that. A lot of times, they'll be writing things down or actually, I like it when they actually write out sentences, "Here's my thought process." That's very beneficial to me, it's actually, I think, extremely beneficial to them as well because them writing out the process is showing they're thinking this problem through. To explain it to another person, that's showing a deeper level of thinking.

Corey Powell: Yes, definitely. The technology gap though, I've noticed as an instructional designer, you run into that. You have a great idea and not really thinking about, it works on your tech, but not all technology is created equal.

Josh Lambert: Right.

Corey Powell: Are you pretty open with how they'll get that to you?

Josh Lambert: Oh yeah, most definitely. I tend to tell them, "However you want to get it to me," so I'm good with that. Now granted, like so I use online homework systems
or the embedded quizzes and things of that nature. They have to be able to access ... Desire to learn is our-

Corey Powell: Oh yeah.
Josh Lambert: I mean, after that-
Corey Powell: The basics.
Josh Lambert: Yeah. After that it's fine.
Corey Powell: Yeah, yeah. I think that's important. I think that gives you that instructor presence, it gives a little bit of personality to the course that's like, "Hey, I can't figure this out but I can email it to you if that's cool." Then you can help them out.

What does not work so well? Like what's something you've kind of had to throw away?

Josh Lambert: Oh yeah. There was a few things that you kind of, once you get in you think, "Oh, this will work perfectly," and then you have to get rid of. Actually, the design of how I deliver the content in the Quantitative Skills, I actually had to restructure some things to get it in an appropriate order were they could understand the material. There was more of a, the way the content was delivered, which works face-to-face. It didn't quite work as well online, so we kind of modified that.

Then a big thing for me, it wasn't a functioning properly type thing but I really am an open source type of person, and so I try and eliminate any cost, and some of that restructuring was due to I wanted to use more materials that had no cost whatsoever. There's plenty of materials out there, it's a matter of just taking the time to build it. Build them like, I think I built a 400 question library in one of the courses. There's 400 different questions, I randomly assigned numbers and so it's quite large and robust, so it's not something you're going to be able to do in a semester. It takes time and-

Corey Powell: I think the Math Department, you guys seem really good about sharing that stuff with each other.
Josh Lambert: Oh, most definitely.
Corey Powell: The crosstalk courses.
Josh Lambert: All my colleagues over there have been phenomenal, I mean just sharing. That's actually how I got into this gig.
Corey Powell: Okay.
Josh Lambert: Dr. Tiemeyer, he ended up kind of turning me on to, "Hey, here's what you can do with online learning." Then I talked to Dr. Knofczynski and kind of learned it from them, seen what they had done, and then I was like, "This is what I'd like to do," and no turning back since then.

Corey Powell: Well, I think it was one of our meetings forever ago that you gave me a piece of advice that I've given to every faculty I've worked with who wants to do online stuff. You said you made a really great video, it was awesome, delivered great content, but in the middle of it, you gave them a date, a very specific date, so now it's like you're stuck, you had this great video that you couldn't use again.

Josh Lambert: Oh yeah. Yeah, thanks for jogging my memory on that one. Yeah, I learned that lesson the hard way. Yeah, most definitely. I learned don't do dates and things like that. Yeah, there's little pieces, you build up that knowledge, and then you kind of toss it out the window because it becomes second nature, so I'm glad you brought that up.

Corey Powell: Right. I would never have thought of that but now I make sure anyone who's like, "Okay, I'll make a video right here," I make sure to tell them, "Hey, don't say any dates or anything specific so you can use it over and over again, or even share it with other people if they want to use it."

Josh Lambert: Yeah.

Corey Powell: If you could design your dream course, resources and time not a factor, what would, how exactly would it look?

Josh Lambert: Oh okay. I mean, obviously, you deal with the design process as well. Content-wise, I'm not sure everyone's going to be so interested on content, but I once did kind of a dream course as a hodgepodge of topics in mathematics, but upper all mathematics. Being able to do that and kind of tie in different fields of, there's this analysis graph theory, topology. Just all sorts of different topics where we can kind of tie them together and see, where do they kind of fit together? Just an overview. I called it "a survey of mathematics course," which you usually don't get that. You might get a survey in like an intro, say psychology. It's more of a survey in different fields. We don't have that in math, we're very specialized. You're dealing with college algebra, you're solving these sorts of problems. What's the overview of what's going on here?

I tried to create a course, whether or not it was successful remains to be seen. I'd like to have that be the material, but in terms of the design, that goes, as I mentioned before, on personalized discussion, so basically everyone could kind of self-adjust in terms of where we're looking. I can kind of follow them along too, so if they find a topic more interesting, they can kind of dive a little deeper into that topic, and where they have these different paths and different routes. I mean, you've talked about kind of a gamifying aspect.
Corey Powell: Right.

Josh Lambert: It was a great job. I think that is the ideal situation where they can choose their own path, wherever they want to go. There's some ending there, but we don't have to streamline them down one size fits all to the situation, I think that's a big, we've talked about multiple times, I can't agree with you more on that stuff.

Corey Powell: Yeah, that would be the ideal thing to me, to have it be objectives are the same, but everyone's reaching the same objective, it's just how they're getting there is [crosstalk 00:16:24]

Josh Lambert: Exactly.

Corey Powell: Any kind of resource or tools that have been especially helpful, you think people who are just getting into online teaching could use?

Josh Lambert: Ooh. How much money do you have, right? That's the real question. I've been very fortunate with my Department. We ended up, I have Surface with that, and I mean so any tablet I guess. I like doing a lot of videos along with the material, and so building that up. I used to use a Livescribe Smartpen, but I've been having some issues, so you talked about difficulty. Actually, just this past semester I've had some difficulty where this was two and half years' worth of videos just got lost in someone's server.

Corey Powell: Oh wow.

Josh Lambert: That was quite a challenge but luckily with the tablet, I can upload them to YouTube so I have a different method now. That's been quite useful in not so much from people might think the content, I actually use them within discussions too, trying to involve that within discussion. If they're giving you some form of a question, they're showing the work, I like to feed off that if possible, if I have the time, and give them some feedback. When they hear the professor's voice, I think that's part of the student to professor interaction that we need in those online courses too.

Corey Powell: Yeah, I think that's huge.

Josh Lambert: Yeah.

Corey Powell: I think students tend to be more engaged when they know that you're around. You know what I mean? I think when it seems really dry and the professor just feels like that man behind the curtain-

Josh Lambert: Oh yeah.

Corey Powell: I don't think they give it their all as much. You brought up YouTube. Sometimes we can be a little bit too innovative on those, do you know what I mean? It's
like, find that line of being innovative, but not too innovative. If YouTube works, keep using YouTube because that’s a great source that everyone can access on their phones, wherever. It close captions it for you.

Josh Lambert: Oh yeah.

Corey Powell: It’s not always great, but it’s better than nothing, so I think that’s a cool source.

Josh Lambert: Yeah, speaking of that, I like some of the features where you can choose your own path as well on there. It’s not the greatest, but it does the job, where you could have multiple routes within those videos too. Just clicking on different links and you can actually embed the questions in there. I think there’s some great stuff that can be had.

Corey Powell: Yeah, yeah. I think so. That would be awesome.

Josh Lambert: Yeah.

Corey Powell: All right, Josh. Well thank you so much for coming by.

Josh Lambert: Oh thank you, I appreciate it.

Corey Powell: Thank you guys for listening to the "Teach Strong" podcast. If you want to learn how to do more with your course, please contact the Center for Teaching and Learning. We have a team of instructional designers here, we have an Innovation Studio, we have a lot of these resources that we can help you out with. Then we can also give you some of your time by we can do some of that heavy lifting for you. Take care, we’ll talk to you soon.