Teaching in VR

00:08–00:33

Andrew Coletti: Hello and welcome to this episode of The T in Teaching. This episode is focused on teaching in virtual reality. I interviewed two of the leading professors of teaching in VR from Temple University, Bora Ozkan and Bertrand Guillotine. Bora Ozkan is an associate professor who teaches financial technology and corporate finance. Professor Ozkan was one of the first people to take an interest in teaching in VR and the first Temple professor to teach in VR back in 2020.

00:33–00:38

Bora Ozkan: We don't want to bring new technology just have a new technology. We want to bring with it purpose.

00:38–00:48

Andrew Coletti: Bertrand Guillotine is an associate professor and academic director for the International Business and Administration Program. He taught an international business class on financial disruptions in the summer of 2022.

00:48–01:03

Bertrand Guillotine: About three years ago, I created a new course on disruptions that happened, of course, in business and society. How do we respond to them strategically? And I was like, "wait a second, VR is a disruption!"

01:03–01:15

Andrew Coletti: If you have any questions about this episode or would like to contribute to further episodes of The T in teaching, please email me at Andrew.coletti@temple.edu. Thank you for listening and please enjoy.

01:19–01:34

Andrew Coletti: All right. Thank you, guys, so much for joining us for this newest episode of The T in Teaching. I have Bertrand Guillotine and Bora Ozkan with me. Today, we're going to be talking about virtual reality and teaching in higher education. Both of you have taught at least one course. Now, you guys are the first people at Temple to really teach a course.

01:34–01:36

Andrew Coletti: So, thank you for joining me for this episode.

01:36–01:37

Bertrand Guillotine: You're welcome. Thanks.

01:38–01:39

Bora Ozkan: Thanks for having us. We're excited.

01:39–01:57

Andrew Coletti: So we really want to start off by kind of drumming up a little bit of support for VR. And since you guys are the first two people to teach in VR, but we kind of start with what is the process of teaching in VR. Now Bora, I know that you specifically kind of got the ball rolling. You had to build the support, you had to pitch it to people to get this into reality or into virtual reality, right?

01:57–02:03

Andrew Coletti: So, can you talk a little bit about what that process was like, what we're kind of the struggles you dealt with and how did you succeed?

02:03–02:26

Bora Ozkan: Sure. How much time do you have now? I'll start shortly. So, it goes back to I've been teaching cases for a while now and I'm a big supporter of case teaching in an MBA education and graduate business school education. And once we started teaching online, there was always a disconnect. Somehow it was not giving the same feeling as in-person teaching.

02:26–02:55

Bora Ozkan: So that's what how it started. Back in 2019 when we visited the Temple Library, they had a VR sample over there, so we looked at a virtual classroom and then it clicked. So why don't we try virtual classroom for case discussions? So that's how it started. A lot of work behind the scenes. So, we had so many people.

02:55–03:17

Bora Ozkan: The way we started it is not just to implement VR, but we had a use case and that we thought this technology may help. Instead of trying to work around VR, we try to work around the class we have and how can we introduce VR into the class? So, we spent a lot of time designing the course from asynchronous activity to synchronous activities.

03:17–03:39

Bora Ozkan: Long story short, come March 2020, the first week of March 2020 was the first class we had in VR. That was the lockdown week, and we tried our first VR live VR class when everybody was locked down at home. Coincidentally, we were the only ones on campus because we created a virtual lecture hall that replicated one of the classrooms at Temple with the Philadelphia skyline.

03:39–03:41

Bora Ozkan: So, the students were like, wow, how ironic is that? Everybody is stuck home and we feel like we're back on campus. So that was that was an interesting.

03:41–03:55

Andrew Coletti: All right. Thank you so much. Now, I know you were leading the charge, Bertrand. You kind of came in as the cavalry later. What was that like for you? I mean, you weren't at the spearhead of going into VR, but you jumped in, and you taught a course as well. So, what was that like for you?

03:56–04:31

Bertrand Guillotine: Well, it was interesting. And the process was better than expected in terms of the technical challenges that I expected to have to make a long story short. I also teach with cases. I think cases make a lot of sense and connecting the practice with reality and theory. But I think the most important was the fact that about three years ago I created a new course on disruptions and disruptions that happened, of course, in business, in society.

04:32–05:00

Andrew Coletti: Great, Great. Now, both of you taught a different type, of course, so you can correct me if I'm wrong, Bora, you taught a financial technology course, as you just said. Bertrand, you taught a course on disruptions. I believe in international business specifically. So, both of those kinds of have an overlap of VR, right. For you? It's technology. For you, it was disruption.

05:00–05:17

Andrew Coletti: Were these courses that you had taught before in-person or asynchronously or on Zoom specifically, and what was the process like kind of porting that over into virtual reality? What kind of thing did

you have to think about pedagogically or andragogical?

05:18–05:31
Bora Ozkan: So, there were a lot of thought process, both intentional and some of them actual outcomes were unintentional. So, I had been teaching fintech class for a couple of semesters before we tested on and again because of the technology of fintech, blockchain is the hot topic and then disruption in there too. So that was a right place to start.

05:32–05:54
Speaker 2: So there were a lot of thought process, both intentional and some of them actual outcomes were unintentional. So I had been teaching fintech class for a couple of semesters before we tested on and again because of the technology of fintech, blockchain is the hot topic and then disruption in there too. So that was a ripe place to start.

05:55–06:15
Bora Ozkan: But our goal was so, okay, so if we have this kind of lack of conversation or engagement in Zoom, because sometimes when you look at the camera, they're not looking directly at you are they're not talking with each other. That was the first thing we wanted to achieve; is we want students to talk to each other rather than just talk to the professor.

06:16–06:36
Bora Ozkan: So how can we create that engagement and come up with it? Of course, there are a lot of challenges, but the good example I always give is the first class we had and the first one of the first times which students put on the headsets, and we are in the classroom. And one of the good things about VR, it has a surround sound technology.

06:36–06:59
Bora Ozkan: Yeah, so it's a directional sound. So, when somebody speaks from it, the sound comes that direction. Your avatar as you, you automatically turn that way. So that's a natural reaction. So, when all the students put the headsets on and some students are sitting in the back row, she says something and then everybody turned around and her first reaction was, Oh my God, everybody's looking at me.

06:59–07:19
Bora Ozkan: I mean, she was just didn't think about it. It was just the first reaction. And I think that was one of the key moments for us. Uh huh, this is what we wanted to achieve, and this is what we're trying to get here. So, the whole goal is for students to experience this discussion where they are having feeling more connected with each other.

07:19–07:23
Bora Ozkan: So, which I think eventually improves the learning outcomes.

07:23–07:31
Andrew Coletti: Yeah, yeah. No, I totally agree. And I remember that moment in that class and we were kind of like, okay, so it's working, right? We're getting somewhere, Bertrand how about you?

07:31–08:15
Bertrand Guillotine: Yes. So, I taught the class two years before on an online basis. Right? So, what do zoom two dimensional with distractions that only increased during the COVID pandemic, whether it was a dog barking the kids at home for some adult learners. Right. Or the mix of the gym, the work, the school in one household. So, the ability to focus during that first online class on disruptions was not ideal, to be honest with you and VR, based on what I just described very well, was totally different.

08:15–08:45

Bertrand Guillotine: We felt completely focused on each other on that basically 360 environments being in the class. And for me, the time that I spent was on the activities, the engagement of the students in the VR portion of the class. We still used Zoom before and after, and I spend a lot of time creating the environment, making sure that if we talked about disruptions in India, for example, we had a background with an Indian monument.

Bertrand Guillotine: Yeah, right. That some people knew, some didn't, but most of them could relate to. And so we transported ourselves in the in the business environment.

Andrew Coletti: Yeah. No, I remember also with your class, you were a lot bigger because you were doing this international course on kind of creating a visual atmosphere of what was going on. Now, VR, I know that there's a lot that's being developed and we've been doing a lot with your class, Bora, with trying to put up a visual display of what the students are learning, kind of like a board, almost like a chalkboard of what they're learning, taking notes actively as classes developing with your class.

Andrew Coletti: Because it was international. We were transporting them to Morocco or wherever, you know, you were talking about. And I think both of you kind of hit it this one point, which is engagement. You want to draw engagement, and its really active engagement, not just they're paying attention, but they're involved in the class. So, I want to talk a little bit about that technology that's being used and how it drums up that immersive experience and what else you'd like to see further as VR develops to increase that immersive experience. Bora, do you want to start?

Bora Ozkan: Sure. Well, a few things, as there are currently some challenges is when we run, they're good things and there are some challenges that needs to be worked on. The good things. Again, one of the unintended consequences as students are free of distractions when in a classroom there's the research shows that the story. If you can do a storytelling, it resonates a lot more with students and then they're remembering that topic or achieving the learning outcomes is a lot more positively impacted with a storytelling.

Bora Ozkan: So, in Zoom I like those stories when the cat walks in and those are the things that students will remember the class and relate to topic to those. But you can do a lot more in VR. One of the things we realize the students in Zoom are typically distracted. I too. So, when I'm in a three hour or two hours zoom meeting, I get distracted.

Bora Ozkan: I try to turn on my laptop, look at the emails, the phone is ringing and you're just everywhere. And at some point, you lost track of what was happening in Zoom. The good thing in VR is there. Your students are free of distractions. There are no emails, there are no cell phones going around. They're distracting them. They are they don't have any option but to be there physically, virtually in that without any distractions.

Bora Ozkan: So that's a good thing. And then if we can create a lot more immersive experience in that classroom while they're in Zoom, it is going to be the stickiness of the learning outcomes is going to be a lot longer, like Bertrand is trying. And if think about and we are both using the case discussion method, but which we can kind of achieve cases where students get to see that experience.

Bora Ozkan: What was the story happening in a case in writing? Maybe we can put them, immerse them in a live video. Yeah, what happens with the case? So that's the future that relies a little bit on us to write cases or

develop cases with this this VR technology in mind. The other challenge is still the price is still, although it has come down a lot, it's still not equitable for everybody.

11:56–12:21

Bora Ozkan: So, we want to expect the prices to go down and we want them lighter. So, what we realize is after some 30 or 40 minutes, it creates a little bit of fatigue. So, we don't want to have an experience more than 30, 40 minutes. So, if we can have headsets get a little bit lighter and able to take notes.

12:21–12:40

Bora Ozkan: One of the key lacking things for students is they cannot take notes. A lot of students learn better if they can take notes. Currently, we are still working on putting some sticky notes and some voice notes to yourself during the class. But if we can create this better or easier to for students to take notes while they're immersing, I think it will work. We can do a lot better.

12:40–13:01

Andrew Coletti: Yeah. No, I think those are great points. And before I let you respond, I kind of want to talk a little bit about what you were talking about in your style of teaching. You're using the Harvard case study model if I'm correct. And one of the things you mentioned is kind of when you're in VR, even if you look away and you look through the window in virtual reality, you never out of the classroom really, you can't lose as much focus as you might be able to in real life.

13:02–13:17

Andrew Coletti: But one of the things that we do in your class, and I know there's the flipside to it, which they're not taking their own notes, is we're putting up notes in front of them. They constantly remind this is what we were talking about, and this is what Joe in the guy next to you just said. So, you can't really get too, too lost in what the class discussion is.

13:18–13:34

Andrew Coletti: So that kind of creates this coherence and continuity for it. So, Bertrand, I come to talk to you, you've taught the course one time. Now if you were to go back now, kind of and we experience that there is like a limitation of how much you can do in VR, how would you kind of adjust your, your teaching style around that?

13:35–14:03

Bertrand Guillotine: I think we could add some music, right? The local context. Local culture matters a great deal in terms of business, in terms of strategy. That would be a plus and in terms of adjusting the teaching style, listening more, talking less, which I tend to be engaged in the discussions. Right. So, which, which is a good thing.

14:03–14:27

Bertrand Guillotine: Yeah. I think the students love it but after two or three sessions in VR, the students really, they basically take off with the discussion. They're very comfortable with each other, with the environment, and they want even more time than the 30 or 40 minutes. It's hard to get them back in the regular Zoom class environment. After the VR week for week five.

14:27–14:48

Bertrand Guillotine: Yeah. So, if anything, I would consider that technologically speaking, if we had a faster way to transition between Zoom and VR, it would be great. I don't know if Zoom is working on this, but it would be very positive to just click and then boom, you're.

14:48–14:49

Andrew Coletti: There, boom, you're in it.

14:49–15:23

Bertrand Guillotine: Right? We'll see. But I would say it's seamless the way it is. One point that I wanted to emphasize also is that the waiting room in the VR technology platform is very beneficial. That allows the students to basically transition to that VR environment, which is more real than it is virtual to me. And so, the distractions are put aside, as Bora mentioned, but also all the other worries and things that they're basically focusing on.

15:23–15:37
Bertrand Guillotine: So, they're thinking about their interaction, they're looking at the avatars, and then it basically transport it immediately. So, I think the ability to do transition without waiting room is extremely beneficial.

15:38–15:59
Andrew Coletti: Yeah. Now Bora, you again taught it multiple times, so I'm really interested to hear your perspective on that. You had classes that were a little bit quieter, and now you've had ones that were much more talkative. And one of the things I think is interesting about VR is it kind of breaks down the teacher student barrier that there sometimes is because you're all a floating VR avatar, right. So what do you think about kind of adjusting that teaching style? So, what do you think about kind of adjusting that teaching style?

15:59–16:23
Bora Ozkan: So, first thing I want to actually mention, going back to how important that board for us was on the in the first iteration, there was no board. And I insisted that because even in a live teaching case, teaching before we start the class, will we sit down and plan to board? So, in actual our classrooms we have whiteboards or blackboard.

16:23–16:42
Bora Ozkan: So we think about how we going to divide that board and guide students in a way that, you know, we make sure that we touch points that are important. So I think having that in a VR is crucial and important because not only students can actually maybe they cannot take notes, but they can actually watch the recording. And what we do is this we take like the talking points of the main discussion talks and we put on a board, and we print it and make it available so students have a reference from the classroom.

16:42–17:05
Bora Ozkan: So, I think that was one of the things that going back to your question, the important thing we should keep in mind, just like any other technology, we should not bring in new technology, new innovation into the classroom. Just because it's new. We should bring it with the with the keeping in mind, why are we doing this? What are we trying to achieve?

17:05–17:31
Bora Ozkan: In this particular example, our goal was to achieve increased engagement. So, we thought this technology would help us achieve that engagement and make students feel like they are sitting next to each other. They are immersed into the discussion, and they feel like they're surrounded by their classmates. Just one quick example. In the last class we had a couple of weeks ago, one of the new I think developments into VR avatars is you can see your hands.

17:32–17:52
Bora Ozkan: Yeah, even without the hand pieces. But one thing I realized fairly new is I have a digital watch and it pops up on the hand piece on the avatar. And students were sitting next to each other, and they were all amazed, Oh my God, I feel like I'm sitting next to my classmates. And one student was like you.

17:53–18:26
Bora Ozkan: I feel like you're sitting right next to me. Can't see the time on my hand. Yeah, he was so, like into the moment that he felt like the sit and his classmates could see the watch. Which you can. Yeah. Yeah. So it

was, it was very sad, actually. Another story that tells how students feel. They're immersed. So that's the thing we want to achieve. We don't want to bring new technology, just have a new technology. We want to bring with it purpose.

18:26–18:40
Andrew Coletti: Yeah. So, I just wanted to give a little bit of credence. So, he's using a different app than what you would use, Bertrand, on in your class, which was Chimera. Now we're using an app called Elevate and one of the features that I'm sure you know, your students have had fun with is the ability to throw a ball around the room to actually and they can catch it, whatnot.

18:41–18:56
Andrew Coletti: And I'm sure they've had a lot of fun with that. That creates the immersive engagement that we're looking for. Something I want to go back to that you mentioned prior was equity, right? So, you said about, you know, we don't want to just use new technology because it's new. We want to have a real application for a meaningful application.

18:57–19:02
Andrew Coletti: How can VR maybe be used a little bit more to create equity in the classroom? And. Betrand, do you want to start with that?

19:03–19:29
Bertrand Guillotine: Right. At least aid you can see and maybe hear how it feels like. Our videos are very, very useful also for them to prepare. And then we all talk about the things that we know and the things we don't know. We acknowledge also as faculty when we use VR, that we're not doing this for every class. So, there will be learning opportunities on both sides.

19:29–20:30
Bertrand Guillotine: And I think for the students, it's reconstructing comforting, comforting, and maybe inspiring to see that their faculty are taking so much extra time to prepare for something that they believe in and to increase engagement and equity. Because, again, you know, if you look at international travel as a luxury, which for most people it is, then you at least bridge the gap and you expose them more than one. You are using all the technologies. So, VR, I think, brings people more closely together.

20:30–20:48
Andrew Coletti: Yeah, I think that's one of the things that we've been kind of seeing and pushing for is to kind of like you said, I mean, I know your class is international business, so we were trying to take people to the location of where that key study was that week in particular. But one of the really interesting features of virtual reality is being able to put you in a 360-degree recording environment.

20:48–21:07
Andrew Coletti: So, for example, we could go to Morocco and have recorded footage and you could be there or you could for a sports tourism and hospitality management class. We could take you to a big concert and we could look and tell you how it's all spread out and everything like that. Or we could take you to a courtroom and you could examine legal procedures in a law class.

21:07–21:25
Andrew Coletti: So that's one way that we could see VR being applied in the future. I want you guys to see if you have any ideas of where VR can go going forward. Where can it be applied outside of the Harvard case study model? I know that's what you guys have been doing and it's worked well, but obviously, again, it can be used in a lot of different ways.

21:25–21:34

Andrew Coletti: So where do you see it being used in the future and perhaps maybe what technologies need to be implemented or would you like to see be implemented for it to be used in those specific ways?

Bora Ozkan: Well, so there are already some use cases in VR, in in medical education or whenever there's a hands on training, you can actually build a VR experience. You can go a little bit deep dive. And I know in training, I know in human resources there are tools that people train how to interview sites. So what are the things that, again, going back to storytelling or creating an environment to, to replicate the real life is what you can achieve with VR.

Bora Ozkan: So, we need a little bit more resources then, you know, this equity is important because we've got to understand it's not going to be for everybody. Everybody, every student has a different learning path. Some learn better with writing, some learn better with asynchronously watching. Some are live immersed, in-person, online Zoom or VR. The thing is, the way I see it in the future, VR is not going to replace anything, but it's going to be a good supplement to all the tools we're going to have in the future for students to be better, learn or better achieve the learning outcomes.

Bora Ozkan: In other, you know, some use cases, what's going to help is as we improve the avatars. So I think one of the issues right now, what some of the feedback we hear students want to see that facial expressions and body language better in avatars is we see better improved avatars. Not only is going to create that replicate that human interaction, but it can also help students to better express themselves.

Bora Ozkan: You know, sometimes students will be more comfortable if they want to create avatars to their liking. So however they want to express themselves, whether that's blue hair or whatever outfit they want to portray, it can create. That's so. And I think there's a huge potential. As this technology improves, we have more people working on because this is not an easy task.

Bora Ozkan: Yeah, so we were lucky at Temple University. We had the resources available for us and Dean's office was behind us. We in a given class, we have probably currently around ten people working behind the scenes to make this happen. Now, obviously, to make it more mainstream, we need to work on a lot of the technical issues and improve them.

Bora Ozkan: So that's what we are trying to achieve, right? Improve it, make it more available for anybody to pick up. And just like Zoom, you just do it yourself and then run a classroom.

Bertrand Guillotine: Yeah, yeah.

Andrew Coletti: Great. Bertrand, how about you?

Bertrand Guillotine: So for me, you know, the if you look at the case method in terms of teaching and pedagogy, I would say in the past and still some cases are efficient by but they are static. They are static in the sense that a protagonist is somewhere, right? We have moved sometimes from that static, static situation to a dynamic one.

Bertrand Guillotine: Well, we have a live case. The protagonist comes to the classroom to have a discussion with students and faculty. I think the next level could be to go where the protagonist is, right? So if you're talking about international business, we visit some plants or supply chain overseas from the case so that the students see how it feels like to be basically confronted to the environment and with without the additional benefit, you can also be in, for example, the strategy room, as we call it, right, of companies who are the executives getting the different inputs and having those complex decisions to make or even to boardroom.

25:15–25:40

Bertrand Guillotine: We talk about the boardroom and strategy, but how many students have actually seen it right on a regular basis? Few of them. So same thing. We have plenty of opportunities. I think, as Bar mentioned, it depends on what you want to achieve with your class and your students. But I think tempo has been innovative. It's one way to stay innovative and I really like using VR for that purpose.

25:40–26:08

Bora Ozkan: But think about that global business environment. So a multinational company has locations and problems may arise from Brazil to China to India to France. But imagine in physically, if you're in the shoes of a protagonist, you cannot go to all the places and within an hour. But with VR, actually you can show them step by step. You can immerse them into Brazil, then to China, to India, and then finally come to the boardroom in France.

26:08–26:12

Bora Ozkan: You know, that's something you can achieve. Even you couldn't do it with in-person.

26:12–26:31

Andrew Coletti: Yeah, no, I think that's a great point. It can transport you and even allow you to do things that you could never do before, which is kind of similar to teaching in VR. It's not like you get experience from Zoom to really transfer over to teaching in VR. So I want to end on this to all the professors out there that are interested in VR or maybe think that they can apply to it, but they're a little weary.

26:31–26:44

Andrew Coletti: Or maybe there's a lot of pushbacks like you experienced, right? What would your advice be to them getting engaged in VR, teaching in class, in VR, or doing activities in VR? What would you kind of say to them too, to ease their worries? Maybe? Bertrand let's start with you.

26:44–27:13

Bertrand Guillotine: I would say it's actually easier than you would think. Number two, if we are teaching, I think the best teachers are oftentimes the best learners. So, we need to actually show and lead by example that we continue on learning, not just the theories and the case related method, but also what's happening with technology. So, we don't disconnect from what really excites people and the students in the digital generation.

27:14–27:38

Bertrand Guillotine: Last but not least, I would say so consider the benefits of first and foremost, not the challenges. Sure, there will be challenges, that's clear. But the benefits are what you need to focus on the outcome. And I think the outcomes are extremely positive for both faculty and students.

27:38–27:40

Andrew Coletti: Excellent. Thank you. Bora, how about you?

27:41–28:07

Bora Ozkan: I totally agree with Bertrand. It is it's a lot easier than it may sound and, in the outcomes, and I think are very rewarding in the end as a professor, all we want is to, to, to provide better experience for the students. And if they can keep in mind that this is a tool that provides a better experience, learning experience for the students, the rest is not that hard at all.

28:07–28:18

Andrew Coletti: All right, great. Thank you, guys, so much for joining us for this new episode of The T in Teaching. Hope to have you guys back sometime soon and hope that we can continue to do some more content on VR. So, thank you very much.

28:18–28:33

Bertrand Guillotine: You're welcome. Thank you.