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Female: Talking about likely scenarios for learning in both the near and distant future. Our guest for this series include both UP faculty and guest academics and futurist from across the United States.

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Male: Welcome to a special episode of the UP TechTalk Podcast. This is Ben Kahn, the academic technology specialist and trainer at the University of Portland. Today, I'm joined by my co-host, Maria Erb. Hello, Maria.

Maria Erb: Hey, Ben.

Male: Maria is the instructional designer at the University of Portland. Today, we're kicking off the first episode in our five-part series on the future of learning. I'm very happy to welcome in our guest today who is Dr. Eric Anctil from the University of Portland who's a professor in our education department. Welcome, Eric.

Male: Hi. Thanks, Ben. It's good to be here.

Male: All right. Thanks and I'm going to kick it over to Maria to get us started on our series.

Maria Erb: Okay. Well, this is the episode of our series. The topic of this episode is called "Predictions." We wanted to talk with Eric today because he's had some pretty interesting predictions in the past, some of which have come true and some which have not. Let's hear a couple of your predictions Eric and then tell us what came to past and what didn't? Why you think that happened?

Male: All right. Well, thanks for having me on the show today. I'm fascinated by this topic, so it's great to be here with you guys. Sometimes I'm terrible at predicting the future. I always just think the world's kind of move faster than it really does. I sometimes see things through my own lens and I think, "That is awesome. Surely, that is going to be contagious and people are going to do that." Then other things come along that completely surprise me. One of the examples that I gave, something that really took me completely by surprise that more of ringtones. You might remember in the, about ... Oh gosh, 10 or maybe even more years ago, that you could buy a ringtone for your phone

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for a dollar. I used to think, "That's never going to take off" and it became a multi-billion dollar industry. Associated were things like paying for texting. That's just the behavioral prediction I could never have imagined. I just couldn't imagine people paying 10 cents per text and then sending hundreds of text and what was so important to talk about?

I will say that I think I did ... I don't think anything. I did predict the iPhone or having a full screen, carrying that around with you in your pocket. Having a centralized unit for your email, and for web-searching, and for your phone. I remember telling students, "Oh gosh, in the early 2000s when we had candy bar style cell phones and it was really, to text someone, you had to press the letter four-three times to get an H."

Maria Erb: Oh my gosh. Yes.

Male: I do remember saying to students, when I would see prototype-y phones coming out with big screen or with a screen that you could touch and stuff, I remember saying, "This will be the future." Like, "This will be your little hub." Even before the Palm 3-0 and things like that.

Maria Erb: Yeah. [crosstalk 00:03:57]

Male: Yeah. I remember those things and I remember so many people saying, "No, they didn't want to leave the comfort of a computer for a lot of that work." I remember saying, "No, I think that people are going to carry this in their pocket and they're going to become dependent on it." I wasn't the only one by any means making this prediction. In fact, the really smart people were actually making them, the devices themselves. I do think that I really saw that coming. I saw the iPad coming long before it came. I remember it talking to students and having an actual magazine. I remember holding up the magazine with a large picture and I said, "You will have a device someday in your hand that when you touch this picture, it will turn into video for this new story." You'll just come to expect that. You'll come to expect having an interactive relationship with information as it comes to you. When the iPad finally came around, I felt like, "Yes, I'd been seeing that for a long time." Like, "I knew we'd have something like that."

Maria Erb: Were your students incredulous when you mentioned [inaudible 00:04:56]?

Male: Yeah. They're incredulous too because I sometimes will talk about like post reading.

Maria Erb: Oh yeah. Right.

Male: Because you have a video now. Why would you read that story when you can be watching it? Watch the person who's being quoted in the story, actually could mean the quote. Things like that. I think some people sometimes really reticent about thinking about losing that intimate relationship with words, let's say, or ideas.

Maria Erb: Yeah. When you think about that, that relationship is just a blip on the screen anyway we've had for a millennia, no relationship with words. Then [inaudible 00:05:30] one and now we're probably going to lose it again, but it has been here for a short time.

Male: For all of us, it's been here for our lives.

Maria Erb: Yeah. Exactly.

Male: That's just how we did things and it's how we were acculturated into thinking about how we get information and it is an intimate thing. I talked about the written word being ... It's a time machine essentially. I have a thought, I write it down, I put it in a book, I send it out. In 15 years later, you read that idea. It went through a kind of time machine.

Male: Right. It's the basis not only of our entire civilization, like as humanity. It makes everything possible to record knowledge but also, more specifically in higher education. If you just go and look at Wikipedia, the history of higher education. It's like as soon as people learn to write stuff down, they would sit people down and read it to them, make them essentially learn off of stone tablets or whatever it was. That's really where education starts as well.

Maria Erb: Well, a form of education. You've had an education way before that though.

Male: I would say formalized education. [crosstalk 00:06:31]

Maria Erb: Yeah. Formalized.

Male: That exactly, that was sort of to the point of some of the different articles you might see is like, "What is the mode of learning? Is it a child's natural inquisitiveness to let go and experience the world? Is it this formalized, like here's the truth that's written down for you and we don't question it?" Kind of method of ... I mean, that's sort of a higher level way of thinking about it. I just thought it was interesting when you're talking about losing words. How can you visualize a society that doesn't use writing?

Maria Erb: I can. Can you?

Male: Yeah.

Maria Erb: Yeah.

Male: I will talk about that with groups and the people sometimes react with great horror at the idea of not having a book, or something like that, or not learning from that thing. I don't know. Books can be misinterpreted and you're very selective as an author about what you put in there. If we get to a place where we have a machine, a computer that becomes the intermediary between one person's thought to the other person's thought, why not just get rid of the words?

Maria Erb: Or something that isn't even a computer?

Male: Yeah.

Maria Erb: Something even beyond that.

Male: That we don't have the capacity to imagine because we don't have the building blocks for what thing will even be, but it's a hundred years away.

Maria Erb: People used to communicate with each other before language is even developed. I mean, you know, we can do it.

Male: Yeah. As far as predictions go, I'm just regularly impressed on how slow things move. When I envisioned an iPad-like device, I really thought that when the iPad came on the scene on March of 2010, I thought, "Within just a few years, this will just take over books." It just made sense to me, but I go into so many schools and there's still so many kids who prefer to read a book. That's when I've missed. I really thought by six years later, I thought today's six year old would want to just see everything on a iPad or anything on a screen. A lot of times, they still want books and then in the schools and things, it's ... Some schools have [divided 00:08:37] option of devices and some don't.

Maria Erb: Right. I think it's always interesting to hear people weigh in on that. Because I used to have a RocketReader when they first came out, which I think it was the mid-90s or something like that. You could download all kinds of stuff from the Guggenheim Project or Gutenberg, sorry. Getting mungy words here. Yeah, the Gutenberg Project with stuff in the public domain and just read them there. It was awesome and I just love it and read a lot at that way. Then I just was like, "You know, I want some paper to touch." I think there's going to be that in people.

Male: I think that's a generational thing. You'll need enough distance from it that you won't have that emotional connection to the tactile.

Maria Erb: Oh that connection. That's right.

Male: Yeah. In the same way that I don't need ... People today, you don't need to go into a phone booth to have that conversation.

Maria Erb: Oh my gosh.

Male: For generations, you would have a phone conversation in private space.

Maria Erb: That's right.

Male: You needed to go into a room, or you go to your back bedroom, or you would go to a phone booth, or whatever it was. Even the airport kiosks would do a lot to help create a private space for you to have a phone conversation and now we do have those. People have the conversations ... Often times to my utter horror, the most private conversations and they're the most [innate 00:09:52]. I mean, learn a lot about people. Our shift is really ... whereas I think that like our grandparents' generation, the idea of having a private conversation in front of others would just be kind of horrifying. "I need to go somewhere else to have this conversation." I still do. I try not to have public

conversations like that, private conversations in public. I think a lot of people today, younger people specially just not used to that idea that you would sequester yourself off and have that conversation.

Maria Erb: Yeah. It's interesting that you talked about the grandparents generation. A lot of people living in the rural areas would have had a party line, so they were listening to everybody, it's probably like conversation.

Male: That's true.

Maria Erb: That was a form of entertainment for them.

Male: This behavioral changes I think come with generational changes so that you don't an emotional, let's say, connection to something that predated you. Today, a kid who's learning to drive, let's say a 16 year old who just learned to drive, might have learned to drive in a 2015 car that has driver-assist backup, that has driver-assist parking, that has driver-assist lane change and they just come to depend on those things. If you took somebody from 40 or 50 years ago and said, "Here's your car, in some ways drives itself or will assist you in driving," they would say, "No, I want touch the stick and I want to push the clutch."

Maria Erb: Yeah. Work on the car.

Male: "I want to have this experience with ... I want to go to open the hood. What do you mean I can't find where the oil goes?" That dies off and then all of a sudden, you get used to the new technology then now that 15 year old or 16 year old today is looking forward and saying like, "Oh, a completely autonomously-driven vehicle, that kind of freaks me out and things." Their kids will expect to be drive around by ... I think that's would have that shift occurs. When I think about education, I think what are the things, the threads that weave through, but then the ones that sort of die off?" [inaudible 00:11:48] that way, but we just don't anymore and nobody seems to raise a fuzz about it, because we don't remember the olden ways of doing and they seem kind of our kick anyway.

Maria Erb: Olden days. Yeah, maybe it will become this antiquated notion of the little one-room-school-house sort of, or kindergarten class for that matter, or any of those things. I guess we'll have to see on that one. It will be a ways away if we're still doing that now.

Male: Yeah. [Turning by 00:12:18] the predictions that I've made about education. One of the things that I predicted in terms of behavior is, that we will have a more collaboration and we'll have more peer evaluation and assessment. I keep waiting for professors and teachers and just someone to create more interesting ... I can't think of another word other than assignments, but projects, where you can have more authentic community engagement within a learning community, like a group of five students building something. Engineering schools are pretty good about that, but what is it look like in an English class for example where you have people working on project and not one person doing 80% of the work and then complaining about everybody else. I mean, a more ...

Male: The traditional group project.

Male: Yeah. Exactly. Like, "Who actually did the PowerPoint? Melissa? Thanks, Melissa" whereas Melissa's just mad because Melissa did all the work. She just thinks you guys are bums.

Maria Erb: Everybody else can see the grid because she did it.

Male: Yeah. I'm thinking more like something that models creating a product where you go to some sort of internal product demonstration within your company and you say, "This is our prototype new thing and people take pot shots at it and try to tear it down, but you engineer it well enough that it's pretty sweet." That happens all the time in private industry where you have, as part of research and development, you're doing rapid prototyping different things. Those people have to work together to make it work. When will we see that model in school, in things not just engineering? That's one of the ones. Then sharing in general, I think that we have a generation that's comfortable sharing, but when will have evaluation systems that are more designed for people to share their work out more and then also for other people to assess them without trolling.

I've often thought if you were in a high school classroom here in Portland and you're in a high school classroom somewhere else and then you were sharing work more and being more collaborative. Like the classroom in Pittsburgh are sharing with the classroom in Portland, and what would that look like? Those kinds of opportunities I feel like are really there with the technology, but we just don't have any models that are opening that up, really. An enterprising teaching might do that, but a really true systematic wide thing, I've been thinking that's going to becoming a lot for a while and it's just not happening. That's I guess a prediction that I've missed.

Male: Do we have teachers doing that in their own professional development? [crosstalk 00:14:49] new one saying like really collaborating? I mean, I know very enterprising ones do, we get on Twitter and they'll form professional learning networks. Is that a model culturally that they're prepared to lead their students into?

Male: I think those are roughly a minority of teachers who do that. Some of them are pretty comfortable and some teachers are very comfortable having people in their classroom whether literally or in a figurative way. Some are very guarded, the classroom is their territory when the door closes. I mean, they'll invite you in for their evaluation period and the principal can come in twice a year. For the most part, they're on their own. You're right, I think that we have a model of education that's been very isolated and isolating for the classroom, what would it be to be collaborative. Risk is involved with that kind of collaboration, but you're right into your point. I don't think we have a lot of teachers who do that, just naturally. Certainly, older teachers don't. By older, I mean, anybody older than 30.

Male: Right. I think remodel definitely silos, like educational experiences off by a subject and

by the teacher and by the section. I'm just wondering, can they moved towards like viewing the educational experience as whole array, like everything is contributing?

Male: Yeah. That kind of subject collaboration, I think ... I just have to think that students are going to want that more. I know you're in this media-rich environment at home and even in your social life outside of your house, just there's so much media and it's so rich. Even your phone can be a gateway to just about anything. Then you go into a dusty classroom. It's just like time to plow your dusty [buff 00:16:35]. The room is like about literally read about the dust and sand of, like the Egyptians.

Maria Erb: Days gone by.

Male: Right. Exactly. Now, we will learn about Sanskrit and you'll think how appropriate, because I feel like I'm in a time machine. I do wonder when that's going to happen and then some kids are going to be like, "That's awesome." This completely immersive collaborative subject area, the experience where you're not just learning about one thing. You're not just learning about the Egyptians, you're going to need to be one [crosstalk 00:17:07]. Whatever it is.

Maria Erb: I know. I've been waiting for that one too.

Male: When we think about predictions and stuff, that would just be fun.

Maria Erb: It will be so much easier to learn.

Male: It would.

Maria Erb: [crosstalk 00:17:17] It would just be there.

Male: Yeah. I wish I could do this for you right now, but if we had like one of our master's level classes with us right now, and I mentioned the Magic School Bus to those 25 year olds. They all come to life. I don't know if either of you ...

Male: Like the kids' book?

Male: Yeah. Either kids' books that was also show on TV called the Magic School Bus and Ms. Fizzle. No, Ms. Frizzle. Fizzle or Frizzle? I can never remember which one she is. I think she's Ms. Fizzle.

Male: That was a little tool they like be actively watching it, but then [crosstalk 00:17:48].

Male: This teacher, they're huge kinky hair and she was just really animated. She would take the kids in the magic school bus and it would literally go to the things that she wanted to teach them that day.

Male: They like blast off into space.

Male: Yeah. They go into space and literally go to space. Like, "We're not only are we going to read about Pluto, we're going to visit Pluto."

Maria Erb: We're going to go there. Yeah.

Male: "We're going to this rings of Saturn" or she could go into the human body and the magic school bus would be tiny, tiny, tiny. Then suddenly, it was on a cellular level, coursing through the veins of a human body and you were learning.

Maria Erb: Totally.

Male: I remember in one of the students, you were learning really gross things the body does. Those 25 year olds who, if I were to bring up the magic school bus, they all come to life. They love that show. To them, that's what learning was. Where is the modern day version of the magic school bus where we have a virtual experience of that journey through the human body or a virtual experience of dancing on the rings of Saturn or whatever that thing is? We're not just there yet, but I bet you there's a lot of money in it. Whoever does that, I have to think there's just going to be a ton of money when you can give a school, a magic school bus kind of experience of learning. There could be some real profit there.

Maria Erb: Speaking of that, so my prediction that I was telling Ben about today was when so about 15 or 16 years ago when I was building this online program, I was thinking, "Gee, here's Harvard and Stanford. Why does every school have to come up with Stats 101, the English [cop 00:19:23] and this kind of curriculum course? Why doesn't Harvard or Stanford just put out the best version of it with the best lecture and just like we can buy it in and we can run it here?" So we can just put it on our server and we can have one of our professors leave the class. It just seem to me like that was such a no-brainer. How is that not going to happen? Well, there's a lot of reasons why it didn't happen.

I mean, just like you were saying, to me that was obvious. There's so much resistance, there's so many other things in place that are going to prohibit something like that from happening even though ... I mean, who would have profited from that? Harvard and Stanford obviously, but there just too many things resisting that kind of sweeping sort of change, I feel.

Male: Yeah. I think one of the hard parts of that is how do you know that Harvard and Stanford have the best model? I remember I was writing a paper of some kind. I remember talking about, I think it had to do with athletics and you attribute success academically to a school that also might experience success athletically. Harvard is the gold standard because it's always been the gold standard. What if the best class being taught around Stats 101 was really at U-Mass Boston and nobody knew? That's always a tricky thing, like how do we know which is really the best of anything out there?

Maria Erb: Maybe we can upvote.

Male: Yeah.

Maria Erb: There could just be a bunch of them out there and we're just voting for ... Because we've tried this one, we've tried that one and maybe we want to try another one next semester or whatever. It just seem to me like why are we reinventing the wheel every single time?

Male: So many redundancies across so many things.

Maria Erb: Yeah. Exactly.

Male: One of the questions in it, I was going to make a joke about it but thinking about this, where's like the American Idol of higher ed, or classes, or learning, or The Voice or whatever it is? We have in our cultural, it's not in our DNA yet, but certainly in a lot of our cultural practice to expect a competition style evaluation of things. What if you're a student and creating things and we've done competitions within engineering programs where you built a car and you track it on down to California and you meet with 40 other universities and you all see which one of you has the better car for whatever ...? What about that on a bigger scale? I don't know what the thing is, but you could be modeling like entrepreneur. There are a lot of entrepreneurship organizations and things where the students or people who are trying to launch their careers who are college students and trying to get their products off the ground will go into competitions to see if like ...

Maria Erb: Sure.

Male: Shark Tank.

Male: Yeah, or like a Shark Tank company. There's so many of these, but when will our schools start to mirror that in some way again?

Maria Erb: Model that.

Male: Model it, or mirror it, or improve it maybe. Because I think that the students who's bored at reading about the Egyptians in a really old textbooks sitting in classroom could be really engaged if their job was to create something, like a modern-day version of something that the Egyptians could have used and dah, dah, dah. Whatever that is. Yeah, I just don't believe we have anybody really leading that thing. I'm too lazy. If you wonder, "Why don't you lead it, smarty pants?" I'm instantly distracted by shiny objects. I would be a terrible person to do it.

Maria Erb: Speaking of leading the charts, that is exactly what we're going to talk about here in our last portion of the segment. This idea about what is this bold new version of the future of learning? Here, we've got the doomsday version and Dystopian future and that's all over the place I'm talking about quite frequently. Because I feel like how are we going to avoid this? That's really what I want to know. How can we create a different future?

Looking at Audrey Watters blog post, then we would talk about a couple of points that she makes. She starts with the great quotation from Sebastian Thrun, one of the

founders of driverless car with Google, and also of course the founder of Udacity. He said, "In 50 years, there will be only 10 institutions in the world in higher education." Of course he thinks Udacity, his company has a shot of being one of those 10. Audrey's whole post is about, "How do we go from 17,000 plus institutions worldwide in higher ed to 10?" She said, "Just of thinking about it, these are some of the things that would have to happen." Of course the first thing she talks about is, college sports as we know, it would have to be over since only 10 institutions would be competing against each other.

Eric, we had this great discussion a few minutes about that very subject. That doesn't sound likely to happen to me. How about you?

Male: No. I don't think so. I mean, college sports is so woven into the media machine, and entertainment and spectator sport and [gone up 00:24:41] in general that I just don't see. That's not going to shift quickly or easily. I think that the bigger threat to college sports is on the media side where people aren't just watching as much on television maybe. There just hasn't as much interest in funding, so such as an expensive enterprise. You see broadcasters, let's say, retreating a little bit from paying so much. I could see that happening. Then your weaker program starts to die off because the money that comes into a conference just isn't as strong and then there's [inaudible 00:25:16] priorities, so you just eliminate sport within your institution.

For the bigger players and I'm thinking of maybe the 100 or so colleges and universities which are really the big players, the Ohio States, the University of Oregon, the University of Floridas, they're pretty integral to a media machine. I think that for a lot of students in general across a lot of institutions, spectator sport is how they ... A lot of them are culturally-engaged with their institution and that engagement continues after graduation. Even if you're at a, let's say a mediocre sports school, used to having an affiliation to the school, an affinity because of that relationship, it's high emotion.

Male: It gives your Game of Thrones, like house and motto style. [inaudible 00:26:15] University of Oregon.

Male: Right. Yeah, there is one point in there where she said, or she was making a point that her alma mater could just go from being the University of Oregon to Phil Knight University. Phil Knight has been instrumental in helping turn the University of Oregon around. For decades, it was just a meddling state university in the athletic department and he really did put a lot of money into helping that program and contributing to an arms race around all of that. People don't care about Phil Knight. I mean, they appreciate that the money is there, but your average spectator wants to support the University of Oregon whether or not they realized that Phil Knight is the engineering from the sidelines, I think is inconsequential to a lot of fans. In the same way that a lot of fans don't really care who owns their sports team. They just like, "It's fine. As long as [inaudible 00:27:07] too drastic, we're all good." I think the same kind of thing. I think that it really is about that college experience.

One area I could see is if we don't have as much residential college students or as many

residential college students. People have a different relationship to the university, that looks quite a bit different than the model today where you go to an event on a weekend or something like that. I can kind of see the interest waning.

Maria Erb: Yeah. That's a really good point, if as we move online in some areas and most of our students are across the globe, what is their connection to the sport [crosstalk 00:27:47]?

Male: Because the University of Phoenix doesn't have ... They have University of Phoenix Stadium ironically, but that's only because they bought the naming rights. They bought the naming rights to that. What is it? The Cardinals that play there. There's the Cardinals, the NFL team plays there. They don't have any sports teams and that, I could see. From the Udacity perspective, yeah, college park could go away because the college students aren't even going to campus physically anyway so why would they watch a sport? I can kind of see that. I could see these things coming together and the confluence of these things.

Maria Erb: That's right.

Male: It's funny too, because that just reminds us that University of Phoenix is almost more like a giant corporation than a school. Right?

Male: Yeah.

Maria Erb: It is a giant corporation.

Male: I mean, not almost. It is. Yeah. [crosstalk 00:28:33] It's based on financial institutions and enormous brands like ... I'm trying to think of one off the top of my head, like Minute Maid Park or something like that. These enormous brands that are buying these naming rights.

Male: The other thing too, is why does it going to compete with sport for people's attention? I wonder, there are military-grade ... Wow, I don't know, things you can put on like legs, like an exoskeleton and then it makes you run really fast or it will make you really super strong, is one of the videos I was watching. Yeah, your legs [crosstalk 00:29:06].

Maria Erb: I have been waiting for an exoskeleton for so long.

Male: I want mine to be really tall and I want to be just brawny. Yeah, it's like, "Who is that? Is that titanium?" "It is, you can touch my abs if you like." Will that change sport? You have like these super human things you can put on. Right now, you take anabolic steroid and it's supposed to make your performance better from within, but what if your performance is improved exoskeletally from [crosstalk 00:29:36]? Yeah. Going and watching an American football game just seem kind of boring, if you have this really awesome crazy other competitions. Because that's really what sports is. That could change it too.

Maria Erb: Why can't football players have exoskeletons?

Male: Maybe they will.

Maria Erb: Yeah. Absolutely.

Male: Maybe it will be a lot bigger because they'll be so fast and they'll cover such ground or ... I don't know. Then if you have a GoPro on and then if you have the different technologies within you as an athlete and then the ball or whatever it is you're using outside of these technologies. There's a million things I can imagine where you have this other pers...

Maria Erb: Totally.

Male: They say you are the spectator of something completely different, a video game.

Maria Erb: It's like totally data-rich environment. You can see everybody's hear rate. Right?

Male: Yeah. I know. There's so many possibilities of what sport might look like in the future, of which [cost 00:30:30] sports a tiny part of that. You're asking for predictions. If you would have told me when I was playing with the Commodore 64 in the late 80s that there would be a time when people would play really incredible video games and other people would watch those video games, I would have said you are crazy. There's no way. Who watch someone playing a video game? That's a huge industry now. I totally missed that. I never would have thought that would [crosstalk 00:30:53].

Maria Erb: Or that you could play video games with people in other countries at the same time and other people would watch you. [crosstalk 00:30:57]

Male: Yeah. Then a third person would watch the two people play. I never would have predicted that. It's again, another one of those things that I know I'm not this at point to be evaluative on whether or not that would be successful. Because it's a different mindset, someone who just has a different generation, different mindset, different expectations. I don't know. Something that's not me, because I wouldn't have guessed that at all. That kind of conversation is really popular from people who watch how these people play. People go and assemble, like in ballroom, like a conference or something and watch two people duking it out on a video game.

Male: [crosstalk 00:31:34] eSports. I mean, it's not too much of a stretch from eSports to just augmented humans playing sports.

Male: Yeah. I wonder if the spectator ... Right now, you are a spectator and you watch a soccer match, let' say and you can see it from a couple of different perspectives, but you're not really having a controlling role in that at all.

Maria Erb: Not at all.

Male: What happens when you can? What happens if you have a robot that is your robot army

and it's going to get someone else's robot army? That might make ... Step Curry playing basketball seem kind of boring.

Maria Erb: That sounds fun to me.

Male: Yeah. We had Battle Bots. [crosstalk 00:32:05] Battle Bots is on Comedy Central and your engineering team will design its little robot and would fight the other team's robot to the death until they figure out one system that work the best. They'll show [inaudible 00:32:20] because they had one design of robot that was, you know, you couldn't defeat it and then everyone just made that one and they would just battle to a duel . That's kind of [crosstalk 00:32:29].

Maria Erb: Tie.

Male: They kept doing that. When they write this in the future of the robot armies that play, that will be in the early days, 50 years ago.

Maria Erb: I can totally see that right now, like robot football players on the field and then you get to control. Right?

Male: Yeah. [crosstalk 00:32:46] When you're in control, because that's what video gaming is. It wants to put you in this immersive experience [crosstalk 00:32:53].

Maria Erb: They'll be like that human player still out there.

Male: He's the rabbit and everyone chases him.

Male: It's an unfortunate soul.

Maria Erb: He's holding his own and those robots.

Male: That's right. The one last guy. You go, Earl.

Maria Erb: Let's talk about a couple of these other points that she make. She also says that ... Here's where it gets pretty interesting to me anyway. "We would have to cut or severely restrict tax payer support for you as public universities." We've been doing it for quite some time.

Male: Yeah. That one makes me nervous because I feel like there are for profit entities from different, whether it's Pearson or if it's other universities that are for profit. There are a lot of people wanting to just scoop up higher ed, so that one does make me really nervous. Maybe the vulturous against some of that intrusion is that [with this 00:33:47] taxpayer funded. Even though it's a small amount of university's budget, at least it's enough for them, the university can feel like they can stand on the people's interest.

Maria Erb: I don't know. That interest has been declining. That's the thing.

Male: I know.

Maria Erb: Yeah. If we don't have people wanting to support it which we don't in a lot of cases and we do have for profits wanting to dismantle it, I feel like those two forces together.

Male: Agreed.

Maria Erb: Then Chelsea says, "We have to clarify two outcomes we expect from universities. One prestige for the one percent and job training for the 99%." I think that this is really the heart of the debate here which is that core circle be dictated by employers and universities will start to shift majors towards ... I'm sorry, majors towards things that employers want, like business administration, marketing, programming. I mean, that's what we've been doing. Right?

Male: Yeah. The bigger threat I think to universities in this area is automation broadly.

Maria Erb: In the job market?

Male: In the job market. Yeah. As we automate jobs more, that is ... I can't even imagine trying to predict what's going to happen with an automated job market bigger than it is even jobs that you think would be really safe.

Maria Erb: Like what?

Male: Like a radiologist would be an example of one. If you're a radiologist and you're reviewing someone's scans, you might look at five in an hour, but there are programs out there that can do a pretty good job looking at 5,000 in an hour. Even right now when you go in and get an MRI here in Portland, you don't know whether that radiologist is reviewing that. Likely, they are overseas. They could be in India. They could be in China. They're doing it in English, they're sending it back, but they're looking us up in the middle of the night our time. You have an Indian in the middle the day, an Indian doctor looking over your slides, but it's 2 in the morning here. Those things are happening. We're already off-shoring it, how long before we just automate it.

I would have thought, if you would have asked me a few years ago, "Is being a radiologist a safe profession?" I would have said, "Absolutely." Now I think now you want to be a family doctor, like you want to be the person who's the one who's delivering the bad news about cancer diagnosis for example. You don't want to take it ...

Maria Erb: Yeah, that's the job you want.

Male: You want that job because it's safe. Right? That's the job that it feels like it's the ...

Male: We're long way off from compassionate bot.

Male: Right. Exactly. That's right.

Maria Erb: That's the job here he can't do right now.

Male: I see you were crying. You look very sad. Wow, you demonstrate great empathy, computer. We want somebody who would feel like you are mortal, you can get cancer too, you know this sucks for me and I need your compassion. We just don't have ... Artificial intelligence is isn't there.

Maria Erb: Not for that one.

Male: Not for that one. That would be an example I think of an automated job where radiology use to seem like the better, maybe the better selection if you're coming out of medical school. Now you think, "No, maybe there are something else that would be better to be in medicine." Whether it's an automated surgeon and ... There's other areas in medicine where they're automating the job of being that specialist and so ...

Maria Erb: Definitely.

Male: There are a lot out there that you think, and that's got to be safe. It's not safe anymore. In law, there used to be where you have to go and we used to read so much case law and have to go through and do so much research. Those jobs have all been replaced Westlaw where you just pop in a search engine and it searches all law. Then just pops out [inaudible 00:37:26] you can see a report, and that's it. I wonder about jobs that we think are safe and maybe teaching, I don't know, maybe our jobs. That I think is a bigger threat to higher ed in general because you're not preparing one for the job force anymore because there's no job force.

Maria Erb: Yeah. Exactly. That's the one I think about most frequently.

Male: What would that look like when we [crosstalk 00:37:52] those things? You can see them in certain industries, like if you're into grocery store. 10 years ago, you go to the grocery store. You see a checker, they check you out. They used to have the read the numbers and read the price tags off of the product. Now, they just ...

Maria Erb: They just use scanners.

Male: Yeah. Now just (making beep sounds), you go through. Now, you can go to a self checkout and it's just a matter of time before you just walk out with the car and not stop and talk to anyone because it's just been automated [crosstalk 00:38:19].

Maria Erb: It just read your card under the scanner and it goes (making buzz sounds).

Male: Yeah. That's it, or it's a smart card and it's just automatically doing it or whatever that is. Checkers will be gone and there's almost any industry you can think of, you can imagine being automated out. That I think is something that we're not just not addressing. I mean, what people are trying to ... I mean, people are trying to think about what it would look like, but I feel like it's a lot bigger threat than it is in the general public conversation about it.

Maria Erb: Absolutely. When you think of it though, if the purpose of higher ed shifts from job force training which where it is right now, if it shifts to, "Maybe it's just for our enhancements."

Male: Like [crosstalk 00:39:02].

Maria Erb: Yes, our overall well-being, something like that. It will go back to maybe one of its former roles.

Male: I wonder if ...

Male: Maria, you maybe bump your cord.

Maria Erb: Did I bump?

Male: Yeah.

Maria Erb: We good now?

Male: Speak for a second.

Maria Erb: Yes.

Male: Okay. You're good.

Maria Erb: Okay. Thanks, Ben.

Male: I'll take it where we were ...

Maria Erb: That would be interesting, one of those back to the future moments.

Male: Right now, how many college students are in college? Because that's the option that's available to them and because they think they're going to get a job from it. To go back to just become intellectually-enlightened in some way, to go to college for that reason might just like ... I don't know. I think I'll just go do something else, like I'll go stream movies.

Male: That is very high cost to become [crosstalk 00:39:52].

Male: Right. Exactly. I think you have to be refine sensibility to do so. Yeah, it says, "Part of my greater growth."

Male: Doing that math does not work out.

Male: Right.

Maria Erb: You probably didn't study math in college then if you think about ... or accounting or business.

Male: You probably do all the reading for the course if it's just [inaudible 00:40:09]. Yeah, so there is that.

Maria Erb: Let's see what else is on the list here. Then she talks about dismantling the current arrangement of research universities. I thought that one was pretty interesting too because we're seeing so many private partnerships with public research universities. I feel like this one kind of here and growing.

Male: Yeah. Because the politics sometimes entangled a public universities involvement in certain things.

Maria Erb: Sure.

Male: I mean, gosh, so it's ...

Maria Erb: I mean, look how much money Microsoft donates to big computer science schools. You think they're not influencing the research that gets done?

Male: If it's medical schools and the [crosstalk 00:40:55] that are going to be done and ...

Maria Erb: Pharmaceutical companies.

Male: Pharmaceutical companies and things like that.

Maria Erb: Yeah, all of that.

Male: Yeah, it's just better to just do it on your own.

Maria Erb: How can you? I mean, it's an expensive hobby and you need some equipment.

Male: Yeah. I mean, it's better for the pharmaceutical company let's say, to do its own research.

Maria Erb: I see.

Male: It's shifting that way more. Then you look at the relationships like between Space X and NASA where you have this public/private partnerships where NASA is allowing a company to come in do what used to be their work. You give up some control with that. We're just not willing to fund as a federal government NASA where they need to be for us to do the kind of things. You have people or a relation like Space X saying how there could be great profit potential down the road.

Maria Erb: Sure.

Male: If you're NASA, at what point have you given away too much [inaudible 00:41:48]?

Maria Erb: Yeah. I just think that whole era of the public funding into these things that were like these communal goods, I just think that's sort of over now. Now, we're in this new order and it's just kind of a very different situation even though a lot of us still have those values of like, "We should have these things that are in the greater good of all of us."

Male: Yeah. The greater good if it's profitable to someone as what it becomes. Are you going to try to research and cure some rare disease? Are you going to research and try to cure baldness? Baldness is going to be more profitable. The greater good could be looking at these diseases that are really vital that we try to, you know ... What's going to be profitable to that company? When the profit motivation is there, that's the thing that's at the heart of it. You don't have an earnest researcher, I think [inaudible 00:42:41] is saying. I really want to cure this obscure disease because it affected by cousin and I'm going to do the gene therapy required to find out, blah, blah. Do you know how much baldness would be ...?

Maria Erb: Yeah. Exactly.

Male: Like, "Oh gosh. Yes. Maybe I should work on that too or now." I do think you're right. I think that moving [press that 00:43:02]. Doing things for the public good I think is beyond that. I do.

Maria Erb: Then she says, "We have to rethink graduate programs." Again, they used to be for the purpose of producing professors, but do we need them anymore? Do we need expertise anymore, is really what she's asking because now we have big data. I think that's a really good point.

Male: I do too. For relational professions, if you're a master's level counselor let's say, it's harder to imagine that being automated or big data driven. You can imagine in the hard sciences where there's models and systems that can replace that work that you were doing or that you do and the big data becomes the thing more.

Maria Erb: Yeah. I think it's going to become the thing for just about everything, because I mean, really, what can you look at right now where you're not being tracked. Just everything is being stockpiled somewhere and it's going to be looked at and examined by somebody for some purpose, so why not? Everything that really the university does when you think about ...

Male: Yeah. They used to maybe have a corner on that market but now ... Yeah, it's far more than it used to be and it's kind of democratization of it, I guess, sort of sharing it out more but only for the private companies that can afford to ...

Maria Erb: Yeah. Exactly. Good.

Male: If not really, kind of is that appearance a little bit. Like, "Those universities, they've always had a strangle to hold on the research. They always had a strangle on whatever it

is." Now this other company has a strangle hold of it, but they also have the power of like a lot of different universities, or they have this huge ... I just think how big Pearson is, for example. It's just a juggernaut and its controlling policy. It's controlling accreditation. It's controlling so many functions of how institutions prepare teachers or prepare administrators. They get to just throw the big stick around.

Maria Erb: Yeah. Which is why she predicts they're going to be one of the 10 university standing. Yeah, Pearson.

Male: Yeah, but they're not of the people and by the people.

Maria Erb: No. Of course, they don't. Really not. After that, she says, "Then we have to agree that higher education is all about content delivery." It's getting to be about that.

Male: Yeah. I like to think that maybe we're moving away from content delivery to content mastery, or understanding, or meaning-making where the university becomes a different, has a different function and it helps people to organize around things and solve problems in creative ways. Things that computers don't do, that kind of thinking, kind of using our human power, brain power for those kinds of things as opposed to going and having someone give you all the information that you memorize and test out over something. It's kind of pollyannaish of me, but that's what I'd like to see the universities of the future become. It's a place where you make meaning of information, you make meaning and imagine, and create a future. I don't know what that would look like per se. It's not really about content anymore, it's much more collaborative. It's much more interactive and [inaudible 00:46:18], things that matter. Again, kind of pollyannaish.

Maria Erb: I can see that. Yeah.

Male: It could also be for the 1%. She mentions in the [crosstalk 00:46:29]. I can see that being part of this creative class at the very, very top. [crosstalk 00:46:34] yeah, at the very top where like, "Yeah, we value your good thoughts." Because you have been from a very early age designed to be rewarded by this system. You went to exclusive schools growing up and you were always rewarded for your good ideas and your good thinking and then eventually just became part of that creative class that goes to a university. You do the heavy thinking that other people don't do because they're off learning how to do task or they're off learning how to do something whereas your is higher level.

Maria Erb: It's another back to the future.

Male: Kind of. I'd say yeah, which is what ... Yeah, that's the Harvard model of the 1600s. [inaudible 00:47:14] you had to learn it, man. [crosstalk 00:47:15]

Male: I mean, the schools that she has on her 10 list, her list of 10 schools, it's like Oxford, Cambridge, MIT, and then you're the bottom of the list. University of Pearson, University of Walmart.

Maria Erb: University of Google.

Male: You have to imagine the vibe at those different schools is going to be different even though there's only 10.

Maria Erb: That's right. Very different. [inaudible 00:47:40] [crosstalk 00:47:39]

Male: Because it's owned by this other entity that will kind of withstand the influence of this other, outside of [crosstalk 00:47:48], I think is what she said.

Maria Erb: It very well may do them. Okay. Then finally she says, "The higher education as we know it today will have to be unbundled." I think that we did talk about that a little bit on one of our previous podcast. I mean, right now everything is bundled together for that experience that we've been talking about. Right? I mean, you come here in this beautiful campus, you have good food over at the commons and you get to interact with these other really wonderful people. That's a really great experience. I mean, she does talk about unbundling in the sense of you're going to have perhaps somebody running the ... a private company running the sports teams, and a private company running the daycare on campus, a private company running some of the student services and things like that. That could happen. I can see that.

Male: Those things are happening. It depends on what the core things become. I don't know about a private entity of running like the athletic department. That one is a tough one because it's such a money loser for most schools anyway. I don't know how you'd make it more profitable.

Maria Erb: That's the thing, if somebody can with that idea of like, "I can really pull in some revenue for you." It's the same way schools are reaching right now for that online learning bullet. Right? Pearson [inaudible 00:49:11] with that weekend [crosstalk 00:49:12].

Male: We've already solved many of the problems that ... They're creating a barrier for you for market entry, so let us just grease the skins here for you. [crosstalk 00:49:22] before you know it, they've given you the first dime bag for free, but now you're an addict.

Maria Erb: Yeah. I kind of thing that sports programs could easily have the same sort of catch.

Male: Yeah. You could argue with that. They lack is real physical oversight that they often times ...

Maria Erb: I'm sure they do.

Male: Which I'm sure they do. When you bring a big entourage to a ball game with like people who are employees of the university, but very tangentially related to the athletic department. You're paying freight on a couple of hundred people that go to these things. I could see someone and a physical manager coming in and say, "Wait a minute."

Maria Erb: Absolutely.

Male: Who so and so ...

Maria Erb: "How many tickets did you give away for free? What?"

Male: "What do you mean you're on the bus? Get off the bus." I don't know.

Maria Erb: We have VIP passes up there.

Male: The food one is easier. Even the arms race within campus amenities in general, I can see those things going private for sure and they already are, many of them. I can [stats 00:50:20] easier where one for me to say about, "Boy, I wonder if it's going to be ... if we're going to have that private intrusion on to the academic programming?" Especially when you stack on the backend of it, things like a standard-driven model, what is it that you're doing for accreditation. Here, we have a system that you should be doing because it will make it easier for you and then before you know it, that private ... Whatever that private entity is, they start taking over those different things and they start controlling what you're teaching and what you're doing. These use standards as the reason that they have that control. Really, it feels like they just want to control the classroom and that experience and just take the money for what it is.

Maria Erb: Yeah. Standards or market success. We can deliver these many students at this cost, or this revenue stream to you, whatever.

Male: Yeah. You have this pledging law school that isn't employing enough graduates, but we have a model that will tell you, "We'll deliver 20% more employment rate" let's say or whatever that thing can be. Then again, it gets back to ... It's not buying for the people and then we're back to the Dystopian future you feared.

Maria Erb: That's when I was going to this list saying, "She's got nine points and I think almost of them are happening at this moment." She says, "What could stand in the way of this Dystopian future?" Resistance is the first thing she mentions, which I think is the strongest ally we have at this point. She also says, "Community, open networks, open content, sharing, local support, leveraging technology that connect local learners and local expertise, care about students." All of these things, but mostly resistance is what she says and I think that that's really when it's going to come down to? Digging in heels.

Male: Yup. I tried. I tried often to be the contrarian in the room when I feel like we're moving toward something and I think I'd be really thinking about the larger implications of this. It's not sometimes a very enjoyable position to be in.

Maria Erb: I think that that's why, in the series, I want to explore, what steps can we take to bring about this future of learning if that really is a creative comments you're talking about. It really is this creative exploration of this collaborative utopia.

Male: I think it's important that we think about ourselves as a piece of a society as a whole.

Because really, if society descends into this hellish dystopia, it's not really going to matter what you say of higher ed is. Right?

Male: Yeah.

Male: I mean, to kind of be active participants in our future in a broader context, I think.

Maria Erb: What's that context has been?

Male: I think it's ...

Maria Erb: Paying the arts tax. I know you're going to say it. I know it.

Male: Yeah. I think it's important that we pass the ordinance to put [crosstalk 00:53:09] in the schools.

Maria Erb: I have it on my desk. I've been sitting here looking at me for a week.

Male: [inaudible 00:53:14] physical responsibility to pay arts tax [inaudible 00:53:17].

Maria Erb: I came so close to paying it less. I'm going to do it because your powers didn't do it. [crosstalk 00:53:23]

Male: I think it's just being active participants in our culture and our own societies and not just letting it role over us. I mean like, you say, "Hi, it's really cool on my phone." Does it mean that it's going to completely wipe out the economy like the way we think about our relationship to producing goods and being paid?

Maria Erb: Good.

Male: It could, but I think it's something that people need to realize they have a stake in.

Male: Around things that you've been, maybe you have vote or a say in. Rather than breathlessly anticipating autonomously driven vehicle which I am guilty of at times, thinking about, "What are the larger implications of this breathless anticipation? What would be the larger implications of having self-driven vehicles that put other people out of work or shift the labor market or do whatever they might do?" Just that we're thinking about those things so we're not just letting it wash over us invisibly. Because it does happen incrementally and slowly. Before you know it, someone ask you, when was the last time you use the payphone and you realized, "I haven't used one in years."

Maria Erb: "I haven't even seen one." Right?

Male: We are on a family trip we took about three summers ago. We drove down Highway 101 through a lot of California. One of the things you noticed is they have these emergency phones on poles about every mile or two and they're fully functioning emergency phones. To me, they're just a relic. You have a cell phone or if you don't have a cell

phone, someone driving by will have a cell phone, but somebody knew or somebody is paying a good contract to have these working phones on the side of roadway on the stretch of highway. That's not how I'd want my public money spent for example. Because it's not something that's how we communicate anymore, but if I were someone in a position to ask the questions and to question that contract, I feel like I have an obligation to say, "It's really good stewardship of our moneys."

If our moneys are going to support subsidizing autonomously driven vehicles, let's say, that will be [widespread 00:55:22] in a community, but then what is our payback? If we're doing that, what do we expect back so that's not just washing over and happening invisibly to us. If you can see it happening in many sectors and look at things, how involved are you? That's resistance. It may [inaudible 00:55:38] resistance that you're the contrarian in the room, it might be resistance that you're the one asking, "What is this relationship?"

Male: If AI is definitely coming, who is going to benefit from all the efficiencies that it creates? Right? Is it just funneling money into Google or into a big AI company or whatever? Is it improving all of our lives in a meaningful way?

Male: Right. Maybe one of the expectations is that it gives back in some way. If you want these things and whatever control you might have over them, but if you want to have a market penetration on a state contract for example, what do we get back out of that in some way? I guess that kind of a thing. That's not just them taking always from us. Us being able to direct back in some way.

Maria Erb: I like how she says, "The greater challenge is to have a bolder and louder vision of higher ed's future." I think that really is a challenge. The more that we can articulate and think of one that we can hold in front of us for a while, I think that's really the missing piece of the puzzle right now.

Male: Yeah. What that will be, bolder and ...

Maria Erb: When it's louder [crosstalk 00:56:57].

Male: Louder. Yes. Louder.

Maria Erb: The current Dystopian one, because that's one is pretty darn loud. The one that's other now.

Male: Yeah. Because I don't want to be walking around the ruins of [Phyrat 00:57:04] in 50 years where you can see that science building was built during Sputnik, because the US is responding to the, you know ...

Maria Erb: The treat.

Male: The space race, so they built this really ugly looking building in 1964.

Maria Erb: They totally funded higher ed because of it.

Male: Yeah. Right. Now, it's like, "Now, it's a little relic of what it used to be. This is where we used to keep books." I don't know. I want it to be something more than that.

Maria Erb: I don't know that this is where we used to keep books. Libraries hardly have books anymore. I think we're good.

Male: All right.

Male: All right.

Male: Eric, thanks for much for joining us for this special edition of TechTalk.

Male: You're welcome, thanks for a spirited and fun conversation.

Male: We definitely want to invite all of our listeners to continue this conversation on our teaching and learning website which you can find at [@sites.up.edu/tl](https://sites.up.edu/tl). As we can find to play more articles, more blog post about these kinds of topics and you can find out information about how to follow us on social media as well. Until next time. Thanks.

Female: Thanks for joining us for this special episode on the UP TechTalk, special series on the future of education.

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