

Jamie Hunt (00:00):

The following interview is conducted as part of Georgia Institute of Technology's Distance Math interview project. Today is Wednesday, November 13th, and this interview is taking place at the CEISMC office of Dr. Marion Usselman. So the interviewer is me, Jamie Hunt, and the interviewee is Dr. Marion Usselman. All right. So what is your current, you know, affiliation? What's your title? What do you do?

Marion Usselman (00:26):

Okay, so I am uh, one of the associate directors of CEISMC, so associate director for educational innovation and development. Um, I'm also a principal research scientist, so my institutional job title is principal research scientist. And then my CEISMC title is associate director. Um, and so I don't know how much you want me to...

Jamie Hunt (00:49):

However much you want to talk.

Marion Usselman (00:50):

So, um, I lead up a group of around 13 to 15 people. Um, and we work a lot with NSF and um, NSF grants, creating educational innovations and then working with our research team to implement them in schools and then, and then, uh, do the research to find out what the, what the impact of them is.

Jamie Hunt (01:17):

Wow. Excellent. Thank you. Okay.

Marion Usselman (01:20):

And I've been here a long time.

Jamie Hunt (01:21):

So you know the drill, all right. So let's just do a little bit of background if that's okay with you. Um, you know, what is your educational path and your career path up until this point?

Marion Usselman (01:32):

So I got my, uh, bachelor's in biophysics at the University of California at San Diego and then went on and got my PhD at Johns Hopkins in biophysics. Went and had a postdoc, uh, two postdocs actually, um, in, in the field and at that point decided that that really wasn't where I wanted. I didn't want to go towards academics. Um, I don't know. I was also married at that point and having two academic, trying to look to two academic jobs is particularly onerous and I, and I just didn't really want to do academic science anyway. And so I kind of jumped ship out of, out of the academic track and we spent 10 years in Charlotte where my husband was still on the faculty at UNC Charlotte and we had three kids and I taught at UNC as an adjunct in the biology department. And then we came down here and I hooked on with CEISMC cause that was, I really wanted to be on the education side. I started to do educational outreach and teaching undergrads biology and educational outreach at UNCC. And then down here I came in actually as a 50% time job and then went to 75% and then went to 90% and then went to 100%. Cause we have three little, we have three elementary school kids when we arrived. So, um, I'm a firm believer in some flexibility in terms of job trajectories, and things. And so, um, but I've now been at CEISMC for 26 years. I've been, you know, I've been one of the leaders at CEISMC for many, many years.

Um, but anyways that's, so I both, I have a very, uh, diverse background in terms of my science and, and so I do a lot of interfacing with faculty and so I can interface very well with the engineering faculty in the sciences. I keep up one of the, the, um, enjoyable parts of my job is the fact that I get to talk to young faculty all the time about what their research is and kind of where they're going and how they might connect it to the K-12 arena. So.

Jamie Hunt ([03:49](#)):

That is wonderful. Thank you. All right, moving on. So you actually really, you know, that's the wonderful thing-

Marion Usselman ([03:59](#)):

I answered some of your questions...

Jamie Hunt ([03:59](#)):

Mhm, exactly, that's the wonderful thing about these sort of like interviews and chats is that the questions are just guidelines. So, you know, we know. Okay. So again, I'm probably going to repeat myself just a little bit, but that's alright! So we know how you became involved with Georgia Tech and we know what in Georgia Tech you are involved in. Um, but if I think, again, you've said this a little bit already, but repeat for me please. You know, what is your specific role in sort of like the distance program? Like how do you interact with it.

Marion Usselman ([04:32](#)):

Ok so, that's going to the distance calculus. Ok so the distance calculus program's a little bit different than most of our programs. Um, and when it started, I was very heavily involved because, so the way it started was that I was out with, so Dr. Judy Dennison, who was the, I think at that she had been the science coordinator at Fulton County, and then she was a curriculum coordinator and the assistant superintendent for [inaudible] I think. Um, so, and we'd worked together on a number of different projects. And so [inaudible] she said one day together was that, um, she had high schools where the kids were maxing out in terms of their math skills and she, they had been trying to hire teachers who could teach multivariate calculus at the high schools, but it was very difficult to maintain teachers who could teach that. And so was there anything that Georgia Tech, you know, was this something that we could partner with. So we worked closely with, um, people in the math department. So, um, um, yeah, so just to, to, um, start it up and I'm just blanking for some reason. I'm blanking on the name of the, anyway it will come to me. I blank on names these days. Um, but that, you know, looking at who are, who are the people on campus that needed to be involved in doing something like this. And so we already had connections to distance learning and professional ed and so knew that they, they did a lot of, um, work with the, the, uh, in term and the, in this, I, this is in the early 2000s. So the technology was very different than now, so, but they, they did a lot of distance education online, um, at the, you know, the, the, that was synchronous online education. So Tom Morley is the one from math who we also worked quite a bit with him and, um, on other programs cause he's very interested in, in education in general. So the K-12, so we had a lot of different, um, projects already with him. So I got together with Tom and said, okay, you know, if he taught the appropriate classes. And so, um, and so we started contemplating this and said, okay, well, you know, maybe we could just pipe this out. You know, he, he taught multivariate calculus. Um, and at that point it was calc two and multi-variate because at Tech, as you probably know, they didn't at that point, if you, even if you've got a five on the AP exam, they didn't give you credit for calc two because the fact that there's linear algebra in calculus. So they didn't change

around the calculus sequences until four or five years ago. It wasn't very long ago. Um, so we, we got together that group, so we had the distance, the distance education, math and, and CEISMC, and then Fulton County schools were on board. Um, so we were kind of going down the road, happily planning things. And, um, and then actually I was, I was sitting next to, uh, Debra Smith who was the, um, head of, uh, enrollment services at that point. And so admissions and I was enthusiastically describing this program to her and she looks at me and says, you know, don't you think that like the admissions office might need to be involved in something like this? I mean, it's like, Oh yeah, I guess so. That's probably a good idea. So, uh, we brought admissions in and Rick Clark has been involved in it since the beginning and um, and they have to bring in the pro- or they have to bring in the, uh, well financial aid because it was all paid for out of the, um, first it was postsecondary option program, which then became the Excel programs, it was paid by the HOPE scholarship. So it all had, you know, when you start realizing, you know, you can go down these routes of trying to start something up, only understanding the domain that you're in and then it's like, Oh well we need to, we need the, um, admissions office, we need financial aid. Um, you know, who, who are all, you know, the whole institutional part because anybody who is going to get Georgia Tech credit has to be admitted into being a Georgia Tech student. And so, you know, what are the qualifications? And so we started with Fulton County and we had, I don't know, 16, 20 kids or something like that at a couple of high schools [at the] beginning. And then it kind of went. So, so I don't know, that's where, that's where it started. So in the beginning I was, I was basically the person who was liaising with the school system and then working with Tom and you know, as we were trying to get the kinks out as it's gone forward, you know, it's now become something that just got, it doesn't just run. Um, but it's, we're our, our uh, role now is kind of interfacing with the school systems with regards to distance education, distance courses in general. So I don't know how much you want to go with. So the distance math is, is its own thing and you know, it's gone from being calc two and, and multi-variate calculus to being now linear algebra and multi-variate. But then we have the calc, we have the advanced courses. And so those are number theory and common combinatorics. And like once we're there, um, and there's been these initiatives, potential initiatives of college of sciences and things to do, other courses and that computing. So that's its kind of whole different part. But one of the kind of interesting things is also about the evolving technology and evolving sensibilities of the students that are in the courses. Because you know, what, 15 years ago, what people expected out of technology was very different as when we started it. We were kind of cutting edge with having Tom Morley standing up at the front of the room with it being piped out to, you know, live to classrooms where they had [a] screen, where they could see him and they could, um, and, uh, you know two screens. So one one was basically showing Tom Morley's head, the top of his head cause it seemed like [inaudible]. And then the other one was his tablet, essentially. And so, um, and we were very adamant that this was something that it wasn't a synchronous thing. Students from those classes could ask questions but that you realize that nobody in a lecture class, calculus class asks any questions anyway, regardless of whether they're sitting in the audience or in the school system. But we wanted to make sure that they were able to, if they wanted to ask a question, they could. And, um, and then they were Tuesday, Thursday [inaudible]. So that was Monday, Wednesday, Friday you had to do it at eight o'clock because you have all these different school systems and there's no, if you, if you try to do it at like two o'clock in the afternoon, nobody's schedules sync up at the different schools. And so the one that we could figure out that would actually align with Tech was, okay, let's, you know, we'll do this thing at eight o'clock in the morning. Um, but that students were supposed to be in their seats, in their classrooms watching this thing. So over the years, that starts to break down. I mean, the goods, the equipment literally might break down and then the schools are like, well, we don't want to have to buy all this new equipment again. Why can't people just come in on their own computers? Because now the technology is such that you don't have to have, it's not all just piped in, you know, on a, on a video conferencing system. So that once it was a browser ba-, you know, they could, they could just come in on their computers. So then we could

have kids sitting at home taking the classes [at] 8 o'clock in the the morning and what the kids here started recognizing was that you, um, you know, college kids don't want to get up at eight o'clock in the morning and the lectures is archived. And so if the whole thing is online archived, you know, why go and you can e-, or, and the ones on campus could even watch it live if they wanted to from their bed. I mean, this is, you know, and so fewer and fewer people were coming to the actual lectures showing up in the room. Um, but we have still maintained up until the present that, you know, the, in some ways fictitious aspect that this is all very synchronous because what you start recognizes is the schools, you know, these are all kids that have taken like a zillion AP courses, everything else. And in this era of dual enrollment, they're all trying to put in as many classes that they can. So if they don't have to fill out, if they don't have to use a spot at eight o'clock in the morning. Now why would you, you know, it doesn't make any sense to the, to the high school students. Why, why should you have to [inaudible] and use it? You know, if what you're doing is watching a video that I can watch later.

Jamie Hunt ([14:28](#)):

Exactly. They could be taking another AP course at that time.

Marion Usselman ([14:30](#)):

That's right. And so they've started, it's become clear that they're large percentage of them are watching the video whenever they feel like watching the video. And we've maintained the fiction by saying that, okay, it is Monday, Wednesday, Friday at eight o'clock and if we give a test, which we advertise right in the interview, you know, when it's to be that you've got to take it at Monday, Wednesday, Friday at eight o'clock. So for the integrity of the, of the testing program you know, so, so, um, that is the way it's been. And, um, but we are actually currently and our last meetings were about, okay, can we make the other part of the technology that you want that it becomes something to question is if all it's going to be is, is a video that people watch, why [do] you have to reshoot this thing every year? Right? So it, those advanced math classes have become, they have canned, you know, those, those, they canned the lectures and so then they just need a TA and you could, you could give the course. And so now I think we're moving in that direction, but the regular one is so big, you know, calculus doesn't change. Exactly. And so as long as, as long as the lecture is not bringing you- Tom Morley, he used to bring in topical, you know, he would, he would get in there and take advantage of the fact that you're there the same time and you, you know, have a relationship with students. But, um, he's retired and, and the faculty men are coming in don't necessarily want [inaudible] and say students don't care. They kind of expect that it would be, if it's something they can watch it any time. Why is it that that is, that needs to be from this year, not, it's the same person teaching it. Right. And so, um, and that, but there are best practices of how you do that once you say, okay, we're actually just gonna we're going to create lectures and we're going to create good ones. Right. Not just whatever the person happened to do that morning. Um, then then you bring in all of like distance education, you know, you pre, pre do the lectures. If you chunk them differently, you don't chunk them as an hour, I mean right. If you're gonna, if you're going to do video training, you don't expect that to sit for 50 minute lectures. Right. So the whole technology and what you guys would expect it has changed from what you know, which you know, can be for the better. We had a had a um, Greg Mayer who is also somebody you might want to talk to. He's, he's over in, in, um, now he's in the math department. He was here for awhile. Um, he's a academic professional over there, but he, he came into CEISMC on that project and he's a math. Yes. His background's in math and he's, he's now kind of lead academic professional. But he, he was running a, um, a small section of the course. Um, the, the large sections. So if you're Johns Creek or want, you know, one of the Forsyth schools where there's a bunch of kids who were in the program, right? You have a community, but if you're out in Coffee County, you're, you know, some of them, of the rural counties and you just

happened to be the one person out in your rural school who is interested in, has the academic background to take these things. Oftentimes they're kind of fish out of water in their own communities that we want to be able to pull them, you know, use this as an opportunity to get you. Oftentimes they've taught themselves calculus, you know, they're taking BC calculus, you know by themselves. And then, um, so Greg taught a small section where they were making use of the technologies and trying to bring everybody together in having a synchronous, um, space where they even were having like a white board. So if you had your group of four and then you'd have a whiteboard and he could put a problem on it and then each of the, each of the students would have a different color pen and then they would write it so that, you know, so they would be working to, you know, it's how do you use the technology to try to create good pedagogy. Like, you know, like you hopefully would in a small class, but it doesn't happen generally in our large lecture classes, but, but also to bring these kids into some type of a community and have them be able to talk to other kids that are like that. So anyway it's [inaudible]. We try to use the technology to do some things that we might not otherwise do. But once you're in pro-, once it's a program that has 500 kids in it, it's hard to shift. You know, those things become difficult to, to revamp. So, but we are, I think are in the process of saying, okay, let's, let's get some of these lectures in a canned style and then, and then open it up that people could take it at any time of the day. As long as you have some long shot testing, um, you have to maintain the integrity of the exams. So how do you do that? So, anyway.

Jamie Hunt ([20:06](#)):

That is so cool. It's so interesting to hear how it's changed even from when I applied and knew about the program. Gosh, what year is it? 2019? Five years ago.

Marion Usselman ([20:15](#)):

Yeah.

Jamie Hunt ([20:16](#)):

That's so funny just to hear how it has changed. Um, so then how that sort of leads me into, um, a double sided question is, you know, you talked about testing, you know, how do you maintain the integrity of testing, I'm assuming just proctoring and-

Marion Usselman ([20:34](#)):

Yeah, I mean, one of the, um, things that we've done from the beginning was have it, it was a partnership between Georgia Tech and the school system. And so we had to have a commitment from the school system and the schools that they would provide adequate proctoring. Um, one of the things that, that some of the fac- that other faculty on campus were kind of ridiculing it about was that we're still using paper exams. Um, and it's like, well, you know, in this day and age, you know, why don't you just have them all take it on the computer and then you just come in and we don't have to deal with the grading kind of issues because we have, you know, the teacher puts, we, we provide the teacher up. We have up until now, anyway, uh, with a FedEx envelope, you know, pre prepaid, everything teacher gives the exam, takes all the exams, shoves them in the envelope, puts it out for pickup by FedEx. And, um, so as I say, so faculty are like, you know, this is ridiculous. This is something, you know, 1980s. Um, but the reality is that the schools, we, we, we started by trying, they have a, a, um, well fax system of where it goes through a fax server. And so you'd have a, a, a cover sheet for each kid and which then gets faxed in automatically goes into their digital file. But you've been in high school, right. So, um, you know, having that all work with, and asking a teacher to basically take all of these exam packets and fax them,

you know, put a, put a cover sheet sheet on each of them and make sure it all gets faxed in properly and you know, when the fax machine might not work and this, that and the other thing. And so, um, it, there were, it only takes a couple of glitches when you're talking about acad-, particularly the integrity of the ac-, the, of the grading. And those are, you know, they're getting Georgia Tech credit. So up until this point, we have done paper exams with proctoring- that the school's promise to proctor. We have had a couple of situations- Lakeside high school, at one point, the school didn't really want to be involved. We had kids who wanted to be involved and their parents, they were ta- they were basically taking the course from their bedroom in the morning. And, but we can't have parents proctoring exams and things. And so they had to, the school at least had to promise that they would proc-, you know, do the correct proctoring, the um, but with, with the changing technology, um, GTPE does this as a professional ed. That's the professional ed. So they did the build, they do the, um, online computer science masters program and all those, those are not proctored by people. And so they have, they've developed the technology and um, where it, there is, I think it's, it's uh, facial recognition kind of system and you're not allowed to have anybody else in the room. You can't [inaudible]. There's all these things going on. Um, and the, the uh, computers, uh, CS 1301. So the, um, which they now, they have an online version that the proctoring is all digital. I mean, you know, so we have not gone there. I know in the, in math it's all- [In] computer science everything is a computer science. You know, you can answer any of the computer science questions you need on the computer. In math, that's not the case. And so, you know, the issue of how do you actually have kids be able to write out and use the mathematical symbols and everything adequately is not something that we've [inaudible] they figured out the technology for at this point. So, but we, it, it still is, you know, it's a major issue. I mean, and if we go to a system where, um, if everybody's taking it at different times, you can't then have the kids take their exam whenever, even if it's between schools. So if, if North North Forsyth takes it at eight o'clock in the morning and one of the other schools takes it at two in the afternoon, that's a problem. And that, you know, even if they are different schools.

Jamie Hunt (25:33):

Oh, they talk.

Marion Usselman (25:35):

They talk, they talk. So you have to have different versions so what they've been doing up to now is, okay, you have to take it, well, it's been at eight o'clock in the morning, so they've [inaudible] you've got to take it eight o'clock in the morning if you can't for some reason. And there's a second version of the exam and they give it later in the day. But it's how you work. That is because it's, it is, you know, it is George Tech credit and that credit is on your, you know, on your transcript as college credit forever. And I don't think parents and kids necessarily understand that when they start getting into the course, which has been one of my kinda- [inaudible] So you've got to make sure that, that kids understand that, you know, when they are applying to medical school and are asked about all their college transcripts, this is one of them. And if you screw up-

Jamie Hunt (26:40):

It's there.

Marion Usselman (26:41):

It's there. Not just, if you go to Georgia Tech and so that [inaudible]

Jamie Hunt ([26:48](#)):

This brings up some really interesting, I guess like teaching and learning problems and questions that I hadn't really thought about. Oh, fascinating. Um, I always like, I like to kind of look into teaching method and, um, you know, things that we take for granted. You know, I, I, I sit in a classroom, the professor or the teacher lectures me, I take tests, you know, I think that that's the end of it, but then there's so much more behind it. So all of this is very interesting to me. So thank you.

Marion Usselman ([27:18](#)):

As you're moving toward [inaudible] you see, you know, Georgia Tech, um, I just know that the uh, enrollment numbers have just come out and so Georgia Tech kids increased way more than anybody else, um, in Georgia. And, and it is because of the online masters program. I mean it, you know, and, and one of the ki-, and I wasn't reading all the articles, but one of the things was that we have more graduate students now than undergrads, but that's because we have like 6,000 online masters in the computer science online masters program. So you know, these numbers. And so you know, for educational policy and things are getting incredibly important thing because a lot of those kids are, or a lot of the students that are taking the online masters are out of state, are paying out of state tuition. They're out of state. They're international. They're, you know, and so, um, it's a enormous, um, money source for them. That's the reason that you know, that they do it is because of the finances.

Jamie Hunt ([28:29](#)):

Well of course. That raises so many twisting and turning questions. Um, so I did want to sort of kind of like wrap up a little bit and then, so kind of a broad question, if there's anything else that you think is pertinent or that you feel you haven't said up until this point, you know, please share. And then I also wanted to ask you if you had any favorite, I guess, you know, stories that you heard, um, from people who have benefited from these programs or, you know, I guess just some of your favorite parts of working on the, on this program for the last, you know, several years.

Marion Usselman ([29:04](#)):

Okay. Quite a few years, 15 years, um, of people just, it's, so you get a sense of who would be involved in it. We'd be probably- George Wright is another one who's, he was over in, in GTPE.

Jamie Hunt ([29:20](#)):

Yes, I have contacted him.

Marion Usselman ([29:20](#)):

Okay. So George has been in it since the beginning and would be a good person to talk to [inaudible] it's kind of fun to see their command center and they have all these stories of, cause they're sitting there in the command center and they could see each of the high schools.

Jamie Hunt ([29:37](#)):

Oh wow.

Marion Usselman ([29:37](#)):

You know, so this, cause there's a camera because the professor is supposed to be able to see the high school that was last [inaudible]. [inaudible]. But um, but George and his crew would be there watching

and then you're seeing the kids playing cards and they're, you know, jumping on the desks and doing [inaudible] and the kids don't understand that there's someone over at Tech watching you on the uh, so he would be a good person to talk to. Um, about, let's see it's been a really, to me, a really, um, gratifying thing to work on. Um, my concerns have always been that it's still hit, you know, it hits the usual suspects. Um, and who are essentially going to Tech anyway. Right. Which is a perfectly reasonable, you know, you guys being undergraduates at Tech, it's perfectly reasonable, um, group to be working with the degree to which you can use it to um, expand the pipeline is more problematic. And so we did do, we were, we did this experiment actually, we at one point, um, Bud Peterson was up at the, it was like the White House and they were talking about increasing access, right? And so he brings up in very public setting that our distance calculus, you know, is open to everybody and I'm like, wait a minute, you know, you're, you're, you know, the kids in this, in, in this program are those who are the absolute cream of the crop, right, in Georgia. And so we basically went to them and said, okay, well if you're going to, you're going to promote it that way, then you need to provide us with some resources to be able to offer this small section so that, you know, we, we want to, you know, how do we get out around the state and find those kids for whom this is something that it can be an absolute life changing thing. Um, and so we, we spent a fair, quite a bit of effort and Rick Clark was, was kind of beating that up of how do you find students who have the potential to do this, who aren't at a school where it's this thing that, you know, in the North Fulton County, as far as I can tell, the parents are looking at them from third grade and saying, okay, this is, this is the trajectory. And I don't, I'm, I'm, it's not, one of the things that I'm happy about with the program is to the degree to which it, um, prompts people, people in schools to just accelerate their mathematics instead of going down and, and letting, letting- doing more deep dives as you go along. And you know, for those who are good in math is, um, we basically just say, okay, algebra's this thing that you do in the- and then we're going to go on, right? Whereas, you know, algebra is a con- is a content of college, you know, and graduate school mathematics. And so you could, and you could go very much deeper into mathematical concepts with talented kids in K-12 if the teachers knew how to do it. And if they had access, you could do number theory, you could do interesting things mathematically. Whereas what's, what happens and, and to some degree we have been [inaudible] to that is that they just say, well, you know, let's just now we can, we can accelerate to them to the point where, um, you know, they're taking BC calculus as sophomores and we have a lot of students that are that way now. When we started, that was not the case. And, um, I remember the first time we had a, we had a kid who was, he was, he was a sophomore going into our advanced calculus class. And he, he was too young to be able to get the HOPE scholarship. And so we had to deal with that. But he was a one off at that point. And he, and he was a mathematical, you know, wiz. Tom Morley took him under his, under his arm, and I think he actually came to Tech and I mean, he was, he was one of those absolute math superstars. But now in a lot of these schools, they're accelerating it to the point where, because we're now offering not only the advanced, not only the linear algebra and multi-variate, but we're also offering this next course, right? That if you're in these areas where, um, you know, the ethic is okay, what we want to do is accelerate kids because it makes my kid look, you know, the smartest of anybody, right? Is that we have larger and larger number of kids who are taking our, our basic math, basic advanced calculus courses as juniors. And then they go into either they then don't take math and or else, you know, some number of them take our next series of courses. Um, but I'm not confident that that's really pedagogically what you should do. Because when you come in, if you're an engineering major here, you know, you're coming in your calculus, it better be fresh, right? And so if you take BC calculus as a sophomore when you're normally not all that mature intellectually, right? And then, you know, but you can do, you can do the manipulations. You don't necessarily know the depth of it. And then you take our, our advanced courses and then you take- and then you run out of math and you have a- your senior year and you're going into a really technical field. What's, what's this going to do, you know, is this, is this pedagogically really the best idea so that if you're gonna, if you were, if you

were gonna sit down and say, what is it? What's the best route? Right? That might not really be where you go, but because we have put these out there, the school systems then create this path and say, okay, everybody run down this path. And, um, we had some situations last year where, um, the college of sciences was wanting to start some. So they did a genetics course, um, which I don't know without the lab.

Jamie Hunt (36:36):

How do you do that without the lab?

Marion Usselman (36:37):

Right, well, that was my point. He was like, Well no, you don't really need lab. Oh, well, right. Well, and then organic chemistry without the lab.

Jamie Hunt (36:45):

Goodness.

Marion Usselman (36:46):

And I'm like, well, what, what path is this? You know? And I know that if you take organic chemistry one and they're giving these to like juniors because the kids have taken AP chem and you know as a sophomore now just because everybody wants more and more AP and they want to just accelerate the whole thing. And so then they give them, so I was like, how, how is this gonna work? And you, you, you take organic in your junior year and then then what do you have? And if you come to Tech and in chemistry you haven't taken chem two yet. So are you then supposed to take chem two and then you, then you're like three years removed from your organic one and you're going to take [organic] chem two. And so that, this, I, I have concerns about, you know, that the, that the, the devils in the details about how that, you know, what the best route is because, you know, parents just want, you know, all they're thinking of, you know, and parents and the kids, you know, it's like, okay, what can I take here as high schooler that will then make it look really good on my transcript? Whereas there may be things there that then don't actually or aren't the right thing for when you then start as excessively as a freshman at a place like Tech. And, um, so I mean, I, I have my concerns about that. I mean [the] computer science pathway is the same way. You know, but, um, so anyway, those, um, but I mean, I think our, our- Georgia Tech's- this, this all, the state has put a lot of money into dual enrollment by now, and there's this pressure, and this has been, this is a change. This has just been in the last five years. And, um, so Kennesaw, all these colleges are, are madly trying to pull from that pot of money. And the state thought that this was going to be something like a \$40 million project or something like that. And then in like two years at ballooned up to 160 million, I mean. So they're- the state, you know, the legislature is going, how are we going, you know, this is not what we signed up for.

Jamie Hunt (39:17):

Exactly.

Marion Usselman (39:17):

But you have, all the technical colleges are all saying, you know, you know, send us your kids to the high school, send your kids for dual enrollment and they'll get technical college credit. There are kids who are the valedictorian at high schools who've never taken a course at that high school.

Jamie Hunt (39:33):

Oh wow.

Marion Usselman (39:33):

And so this, this came up as you know, like, so Lakeside high school was one where they announced who the valedictorian was and the kids in school, it was like, who is that? You know.

Jamie Hunt (39:44):

I've heard of these stories.

Marion Usselman (39:45):

And, and then, and they're taking their classes at [Georgia] Perimeter or you know, at the technical colleges and things like that where at a place like your high schools. Right. And then this was kid, my kids were really excited. And so that the AP English class at Lakeside was a lot harder than the AP English class from Perimeter. Right. And so, but you had kids who were not wanting to deal with the AP English, you know, and so they were taking it, they were going off to taking a dual enrollment. So the dual enrollment has this, it has exploded. So last year they said, well, we're no longer going to pay for books. Um, and we're no one and you and colleges cannot charge the students for books. So this is something that has not been resolved and is like a, distance math program is like a \$60,000 unfunded thing. Which when I talked to [inaudible] Baker at GTPE it's like, well, who's paying for that? And he's going, well I don't know. I don't know whether the provost is going to cough this up or whether it's going to be, uh, and so as the economics, you know that there, there is a real possibility that if the economics go South on this, that Tech might say, we don't want to do this. But you guys, you know, you've got all of North Fulton County and Cobb County and Forsyth County, and all these schools planning from when they're third grade to take this to be in this program. So if Tech pulls out, there'll be hell to pay in public relations and things. And so I don't know that we're in it. So having been the pro-, you know, at the start of this thing, you know that you've now have a program that may end up costing Tech quite a bit if the legislature quits. You know, it was, it was, it was started on the basis of funding from the HOPE scholarship and a pretty good funding stream. We weren't making money, but it was, it was covering costs. And it's not clear whether that's going to be the case unless if we can do things like there's the pressure to use free textbooks. So you know, uh, there, how do you and things like canning the lectures so you don't have to pay faculty. So there are things that might change the program because of the fact of the economics and the state is not going to put the money on us and so it's those, those are things that are, I, you know, when, when it started coming out that, that, that all of these universities were, or colleges as well as university [inaudible] are madly increasing their dual enrollment programs on the backs of the state funds. Then it's like, that's not sustainable. And so, so it will be very interesting to see. You know, I, I don't, I personally think it would be very bad publicity for Georgia Tech to pull out this program. But, so it's interesting in terms of sustainability, you know, when you kind of start something, you know, uh, when people ask, it's like we have, we have a lot of lots, lots of programs, [inaudible] a lot of things, and uh, you know which things are going to survive. You know, when you retire and you go away and it's like, Oh, I think distance calculus has a life of its own for better or worse, you know, so.

Jamie Hunt (43:41):

Well, thank you so much for speaking with us about the legacy of this. This is Jamie Hunt, over and out.