Kourtney Purham: I was working at a school called Gage-Eckington for three years and I'm like, I don't want to teach. I don't want to teach. And then everybody kept saying, but you should teach. I'm like, no. I knew I didn't want to go to medical school anymore so I was kind of in between. So fast forward, my parent, my mother is calling me like, "Hey, Howard keeps calling. They have this program where you could get your master's for free, because you're a science teacher. They want science teachers." I'm like, I don't want to teach. Why did everybody keep wanting make me a teacher?

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Speaker 3: This is the ORISE Featurecast, a special edition of Further Together, the ORAU podcast. Join Michael Holtz for conversations with ORISE experts on STEM workforce development, scientific and technical reviews, and the evaluation of radiation exposure and environmental contamination. You'll also hear from ORISE research program participants and their mentors as they talk about their experiences and how they are helping shape the future of science. Welcome to the ORISE Featurecast.

Michael Holtz: Welcome to a very special edition of the ORISE Featurecast. I'm your host, Michael Holtz, and for this episode I was actually out in the field, the field being Washington, DC where I had the opportunity to sit down with Kourtney Purham. She's a middle school STEM teacher at Kramer Middle in Washington, DC and she was the first DC winner of the CIA Mission Possible Classroom Transformation. So about a year ago, ORISE, sponsored by the CIA, gave away $25,000 to three teachers, one in Washington, DC, one in Baltimore and one in Richmond, Virginia to transform their classrooms with new technology. And as you'll hear, Courtney had just started teaching at Kramer. She came from a different position and walked into the school with this great prize from the CIA Mission Possible competition. And we talk about what it was like to one, start a new job, but also have this new technology and have the first year under her belt with the new technology and the learning challenges that came along with everything that happened. So, I really hope you enjoy this conversation. By the way, we are talking in a coffee shop so it's a little noisy around us, but we had a great conversation. We had a lot of fun and I hope that comes across. Enjoy. Tell me, I know you teach at Kramer. What do you teach at Kramer?

Kourtney Purham: So, this year was my first year at Kramer and I am the STEM teacher. So, I taught design and modeling, and automation and robotics, which are courses under Project Lead The Way. So we use the Project Lead The Way curriculum, which is a nationally approved a STEM curriculum. Previously I was an engineering academy director at Dunbar High School. I worked there for the past 14 years prior to coming to Kramer, so essentially I knew I was moving from Dunbar to Kramer and I wanted to jump start that process, which is why I applied for the grant. So, I resigned from Dunbar in June, I saw the advertisement. I had to learn quickly about Kramer. I applied to compete in for CIA and that's how I came into Kramer.

Michael Holtz: And you won.

Kourtney Purham: And I won.

Michael Holtz: You won with a big prize.

Kourtney Purham: Won, that was like, welcome to Kramer. And it was also unfortunately to like my Dunbar students and family, it was also the way a lot of them realized that I was-

Michael Holtz: Gone.

Kourtney Purham: -leaving Dunbar. So, it's bittersweet, but exciting nonetheless because it's a good start in a new space.

Michael Holtz: Right. So, you said you were at Dunbar for 14 years. How did you decide, when did you decide that teaching was your thing?

Kourtney Purham: Oddly enough, teaching was not my thing so we should start there. I went to Howard, I'm from Chicago, so I went to Howard University here in DC and I needed to work. So, I did like a program called [inaudible 00:04:49], oddly enough which is at Katchem Elementary, which is now the feeder for Kramer. So, everything just being full circle for 20 years ago. And I then took a work study job and I was working at a school called Gage-Eckington for three years and I'm like, I don't want to teach. I don't want to teach. And then everybody kept saying, but you should teach. I'm like, no. I knew I didn't want to go to medical school anymore so I was kind of in between. So fast forward, my parent, my mother is calling me like, "Hey, Howard keeps calling. They have this program where you could get your master's for free, because you're a science teacher. They want science teachers." I'm like, I don't want to teach. Why did everybody keep wanting make me a teacher?

Michael Holtz: Right.

Kourtney Purham: And so then Dr. Irving kept calling. Who calls you at home as a college student, right? And so I was like, "Okay, I'll do it." So I ended up in PG county, my first teaching at the alternative school and I loved it. Agnes Brown Jones was amazing. And then it was like, wait, I actually may be good at this. So, I went to Dunbar two years later and I've been at Dunbar since then. And I just realized I was actually pretty good at it. Kind of more like just a natural leader and I had great relationships with kids and not in the traditional, this is what a teacher looks like, but more so from a real perspective. Although I did not personally have those types of teaching, I mean educational experiences, I'm from Chicago. I went to a predominantly white elementary school from K through eight. I went to Whitney Young, which is diverse, but a magnet high school, Michelle Obama's high school, right?

Michael Holtz: Right.

Kourtney Purham: And so then I went to Howard, which is of course a HBCU but still an elite. So, I was to work in an underserved school, I had never seen any of the things that I had witnessed as a teacher. But I was like, but this is my group. I can do this. And like I said, I was pretty good at it and so coming to Kramer was also like a full circle thing. It's like, let's see what middle school is doing, but I already know the population so let's spice it up on how I do it which is why I applied for CIA. I was like, I could, let me see if I could get this money to start off with something good and then even though it's new to them, if I start off with the best resources, they'll buy it to us sooner, which happens.

Michael Holtz: Awesome. So talk about that, you've had a full year both at Kramer and with the equipment that you won in the CIA competition. What was it like for you and for your students to have access to stuff they probably wouldn't have access to before?

Kourtney Purham: So, because I taught sixth and seventh graders, it was interesting because A, it's first year they're back after COVID so they hadn't been in school since third and fourth grade. A lot of the stuff they had seen because their elementary schools actually had a lot of resources. I think Kramer was previously an Apple school, so that part wasn't like-

Michael Holtz: Super new.

Kourtney Purham: Super new, or as exciting. And because we were one to one in technology and DCPS for the past couple of years, it was like yeah, I got an iPad or whatever. I think that the great thing about it was them just seeing the check in the window. I left my check that I received when I won that day in the window.

Michael Holtz: I got you.

Kourtney Purham: And so even when I got new students or even students who probably didn't pay attention to my room most of the year, I think it was like second semester when it clicked in like, "Miss Purham, where'd you get $25,000 from?" I'm like, this check has been sitting in the window. "Well, what did you buy with it?" They know I love shoes. "Well, did you buy your shoes?" I'm like, "No, I bought you all stuff." And they was like, "You spent your $25,000 on us?" I'm like, "It was for you all." They was like, "Well, what did you buy?" So I told them, I said, "Look around." They love the TV, right? So I teach all of my lessons from that TV, that TV cart is probably the biggest part of my purchase.

Michael Holtz: The thing you use the most.

Kourtney Purham: When I say it is the best thing ever, whether I can show the best YouTube videos, or Project Lead The Way videos and it's a 75 inch screen TV and it moves around my class. "I can't see." I move it this way, it's on a cart. It's the best thing ever. And so they're like, "You spent your money on us. All right, that's cool. But what did you have to do?" So one day I played them the video and they was like, "You came up with that?" I was like, yes. And then my friend, they were like, "Wait, we saw her in here before. That's the lady from the video." And so it's like you're a little starstruck with your own students that you've had all year. Right, right. But the other teachers also benefited from it, right? So one thing I did do just from a STEM director, previously being a STEM director is I consider every facet of the building when I made my purchases. So, it was a STEAM for me, right So I bought art supplies, but then we didn't end up having an art teacher. I brought music stuff to support the music teacher, but the music teacher resigned in November.

Michael Holtz: No.

Kourtney Purham: So I'm just like, I have this stuff, right?

Michael Holtz: You have the stuff, right.

Kourtney Purham: And then I had, my media teacher, he was my best friend. "Can I borrow your 360 camera? Can I borrow your GoPro?" Everything, borrow, borrow, borrow. And that's what made it communal, because if we really want to make the changes or be impactful with the students, then it can't just be in my space. And so that's what I appreciated. I gave teachers microphones to project in the classrooms and we also sometimes have to do hybrid learning so the teachers appreciated just me sharing my resources with them. As much as I can go on and on about how it impacted my direct classroom, it impacted Kramer overall because I made sure that everybody could benefit from this thing that I had received. And so, my kids had that touch in other spaces as well.

Michael Holtz: I think that's great because it really can change. You've seen, as you said, it can change the whole school. Even in a place that's used to technology and used to one to one, when you bring in new things that are a little bit different or provide access in a way that they didn't have before, like you said, with art supplies and music equipment. How did the teachers feel about that?

Kourtney Purham: I think at first when the teachers found out, it was just like, "Oh, that's pretty cool." My admin team, of course that's how they met me. They're like, "Oh, you're the lady that won to $25,000." So, I was actually in day one or two of my admin meetings in the summer, and then I got the surprise that I won. So again, just a super cool way of meeting your team, coming in the door with a gift to everybody. And the teachers at Kramer, they're awesome. They're super, super like collaborative, so everybody just, "You got this, can I borrow this? Or did you see that?" Although other teachers use donors choose for smaller things, again, the bigger things when we're doing events and they're like, "Hey, can I use your camera for this?"

Or, "I'm doing a project with my students. Can we do this?" I did STEM fair this year and this was the first time Kramer had STEM fair. And so they used, I made them do everything on the iPads and they had to record their videos of what their projected projects were. And they're like, "Well, how do I put a video?" It was my a-ha moment that as much as you feel like the kids have technology, because they don't have a consistency, consistently or continuously, they still didn't know how to fully use it. So, I tried to do some differentiation with projects, if you're good with technology you can record a video. If not, you can do a PowerPoint. Just to infuse it, but different types of technology to get them engaged in the lesson. So, I think that that worked out pretty well.

Michael Holtz: Basically, they may have access to it, but they don't know how to use it-

Kourtney Purham: They did not know how to use it.

Michael Holtz: -it doesn't matter.

Kourtney Purham: And that was my a-ha moment. I'm like, "Oh, here go use this camera."

Michael Holtz: Right, right, right.

Kourtney Purham: What is this? How do you do it? I'm like, you don't know how to use it? Or even just my TV, plug it up for me, throw my laptop on it. "Wait, well then what do I have to do, Miss Purham?" And so a lot of things I realized as much as I thought, I'm like these kids, they know how to do everything. They didn't.

Michael Holtz: Now, you wrote a song for your application.

Kourtney Purham: I did.

Michael Holtz: Which was beautiful, I know it was one of the reasons that your application was the winner. Talk about, is creating music something that's part of your life? Is that something you do on the regular? Did you do that specifically for your entrance?

Kourtney Purham: So when I got out of college, I sang in a band. And then I got married and I stopped singing in a band, so what I do is I'll do karaoke. And so that's my thing, and karaoke is pretty competitive so that's what I like to do. However, my best friend and I, who is in the video, we sit around all the time and make up crazy songs off the top of our head. So when I said I was going to do it, I said, "I want to do a song." And I told my daughter, my daughter was like, "Of course you want to do a song." So she was like, "I'll find you some music to do the song." And so I was like, as soon as the music came, it just started coming to me. And so then my best friend, she's from Southeast DC, so our conversations all the time, it was really important for her, it was a big deal for her to have me come into her neighborhood and be a teacher.

She was like, "My neighborhood deserves teachers like you." So it's like, how do you reach a kid at 14, full of dreams, coming up on the wild streets of Southeast? How do you do it? Well, you have to do something different. Right? So it's this STEAM thing. Yeah, we got this math and we have all of these things, but how do you really get to the kids? It's not going to be traditionally. And so when my kids even know, "Miss Purham, look at your shoes." Or, "Miss Purham, you know how to sing? Miss Purham, that wasn't you in the video." It makes me real to them, and that's what I feel like STEAM will do. I can get you to do anything if you could just see this thing in a big picture. And so that's why I came with this song, that's why I chose the song because people want to groove to a song. And even if the lyrics are good and the music is good, they'll grove to it.

Michael Holtz: And it was.

Kourtney Purham: Thank you.

Michael Holtz: And we still do. Every once in a while, I just put it on. Because I'm like, that's so creative.

Kourtney Purham: Thank you. Thank you.

Michael Holtz: It's so fun. I don't know. It's inspiring to me to see that, and you're a Renaissance woman because you've got the whole science teacher thing, you got the music, you play tackle football.

Kourtney Purham: Yes, and so that's what I try to make. So for me again, my students, we watched one of my playoff games one day in my room and they were doing, we were working on skimmers. So, with the skimmers they're doing measurement, but we're watching my playoff football game. And so they're like, "Miss Purham, that's not you," but they're still measuring and cutting. And so my threat to them is, "I know you all are excited because Miss Purham is on this TV, but I need you all to stay focused on these skimmers. And so for them it was just like, this is pretty cool. I can't believe like our teacher is playing football. That's just how we connect and it had worked really, really well. And so doing that grant catapulted me to be myself initially coming into Kramer. Don't ease up, don't slow walk it. Don't give them a chance to find out. Just break through the door. Why not?

Michael Holtz: You arrived.

Kourtney Purham: Right. Here I am, let's go. And so that's the cool part, so even like going into my all pro game this week, because now my students are following me and they're like, "You not going to be here the last day at school," whatever it is. I'm like, I got my all programming and they're like, "Ooh, well good luck Miss Purham." But it's this whole big deal. So that's kind of how my school year has been, just like having a real person teaching you. And so when it was time to do all of the projects this year that we did, whether it was a foot orthosis project, or even the skimmers, or when we talked about robots, it was this real person is teaching this. The lady who was just rapping in the video, and so that's what makes it cool.

Michael Holtz: That's awesome. And they see that they can literally do anything.

Kourtney Purham: Anything.

Michael Holtz: Because you're doing a whole bunch of really cool and interesting stuff.

Kourtney Purham: I had a kid come say last week, "I want to be an engineer." And I was like, yes, like that's what I'm talking about. So, last week I took my students to DDOT and we did a tour of the street trolley. So, we did the street trolley facility, they got to see all of the parts of that and then we took the ride down to Union Station on the trolley. They had never been Union Station. They had never been on a trolley that's in the middle of their city, and so it was just like, "I want to be an engineer." Everything came full circle, everything that we started off with everything that we used to do our project, the field trips, all of it became, this is it. These are our sixth and seventh graders, so I was like, yes, we reached the goal.

The exposure is real. And so everything that we've done, the supplies, the money, the purchases, the field trips, all of those things have impacted my students this year tremendously. And I'm sure they will be able to tell somebody one day, "Yeah, my sixth grade teacher, she was like that." That's what I want them to say. "She was like that. She was cool."

Michael Holtz: Right, right. How does that make you feel? I mean, one, to think about that, but also to know, you saw in that student, "I want to be an engineer." How does it make you feel as a teacher? Not because of the stuff that you want, but just as a teacher in general. How does that make you feel to see, you turn the light on?

Kourtney Purham: Hey, I think my big goal is to turn a light on. I try often to manage my expectations, so all I knew about Kramer is what my best friend had told me. It's in Southeast, it's in Anacostia neighborhood. You could go online and read all of this stuff, but inner cities, you take the information, put putting the back of your mind, throw the rest of it away. What you going to do when you get there?

Michael Holtz: Right.

Kourtney Purham: And so when I got there I realized, okay these kids, aren't what everybody said they would be. And I'm like, oh, I'm about to work some magic in here, because I was starting with a clean slate. They hadn't been in school in two years, but at the beginning, the light was not on. It was like pulling teeth. Here, take the iPad, take the this, and use that. And they were like, "Oh, this is too much. Why can't we just answer some questions on the paper?" because that's what they have been doing. So crazy enough, as much as it seems like it's technology and these kids are going to be excited, they weren't initially excited. It wasn't so simple because again, A, most of them has seen the technology in some capacity and then B, they just wanted to do what they have been doing online for the past two years, which was answer some questions, get credit for it and be gone.

So for me, it was like, no, we're going to record a video in your group. "Why do I have to?" I was like, I need you all to make a TikTok doing whatever. "You want too much, Miss Purham. It's just too much." And so the light wasn't on. At the end of the year, it was like, "Can I use this to do my project?" When we did STEM fair kids were asking like, "Okay, how do I do this? How do I do that? How can I use this to do this with my project? And why do I have to do it?" And I'm like, okay. I thought the light was on, it went back off again. We're still talking about why do you have to? My principal was so pleased with the STEM fair and those kids sitting at a table with a judge, somebody that they didn't know, with their computers up, going through their PowerPoints with videos embedded in it and special effects in their videos, and presenting. And it was like, the light is on, the light is on. So how do I feel? I feel like yes, definitely the light was on.

And that is the best feeling in the world, to know that I thought I would initially come in and the light would just click on, like, "Look at what I got, Santa Claus." And it didn't happen like that, but it authentically became that. I'm a person of being real, so to get that authentic light bulb on, it was great.

Michael Holtz: How long do you think it took to get from, "Oh, this is too hard," and, "Just give me a piece of paper," to...

Kourtney Purham: I say up until November.

Michael Holtz: Okay.

Kourtney Purham: It was tough. September was super tough, and then just enrollment kids were coming in and out. So November, I feel like we're cooking like yes, fire on, stove blazing, and then they made some more-

Michael Holtz: Christmas break.

Kourtney Purham: Right, Christmas break. They made more changes in the schedule. Oddly enough, DCPS, especially in the comprehensive schools, they get a lot of changing of students. And you think you have this class and it's set, you've gotten together and then you get three more kids that came from somewhere else. And so you're starting all over again, so that was kind of my year but by April again, after STEM fair, light back on again. Everybody's good to go, and I'm like, yes, I got them again and it's the end of the school year. So, it was those up and downs that were definitely challenges, but we ended with the light on, so the challenges, no struggle, no progress. Right? Frederick Douglass.

Michael Holtz: Absolutely. Do you think it will be as hard in the fall to start up again? Or will it be a little easier because they've put the whole year of life back to [inaudible 00:24:07]?

Kourtney Purham: I think it'll be a bah humbug at the beginning of the year, because it's like, "Oh, you're still here, huh? Guess we got to work again." Right. But at the same time, even my worst students, what other teachers will say worst, were my best students. And they see me, and they would give me a hug and like, "We got you today?" And so I feel like that energy will still be there probably by week two though. Week one, I'll get the lazy kids and I'm like, come on, you all, you already know it's me. I started the beginning of my school year during, they had to build a mountain litter for potato. So I bought little potatoes and they have to build this thing. And they're like, "Are we really doing this?" And I'm like, let's go. Name your potato and make this thing work.

So, I feel like they enjoyed it, but it was the, "I would really just rather do this worksheet. Why are you making me work so hard?" So every year has to get better and bigger, and so they know that and that's the expectation. And so my hashtag of the year was, it's never too early to be great. And that's what I would always say, it's never too early to be great. "Oh, we are only in sixth grade." I don't care. Never too early to be great. I took them on a college tour in Morgan State two weeks ago. "We're going on the college tour?" Yes. It's never too early to be a great, be exposed to everything. So, I want them to see college and career. I want them to be future ready. I want them to be STEAM ready, and I want them to know that the expectation is that they have to be ready, and we don't want to wait until we're 18 to get ready. I want you to have a solid plan on your way out of Kramer. And so if that's the impact that I can have for the next until those kids graduate in 2023 and 2024, that would be my high five to myself. We did it.

Michael Holtz: Well, and then when you have a student who says, "I want to be an engineer," in the sixth grade, right?

Kourtney Purham: Yes, yes. And so now it's like, we did a one on my board, I had like a label board and it would always have a college and career connections. And so in everything that we built, we tried to talk about, and Project Lead The Way has that where they talk about careers around whatever you're building to make that connection. And again, although they're younger, they're like, "Whatever." And then it comes back and it's like, "Oh, that's why we did that." So, when we talked about mean, median, mode, it's like, "Oh, we're doing math and engineering?" Yes. So, I ordered a bunch of calculators with the $25,000 and that was helpful for the entire math department. "Can I borrow some calculators?" Absolutely. But kids didn't really know how to use calculators, oddly enough, so we're doing that.

And that built up to doing box plots, and they're like, "Why are we doing this? This isn't middle, this isn't high school, Miss Purham." But then we started talking about being statisticians and numbers, and they love sports. And so just making those connections. So I was just like, if we had to count your stats for your basketball game, and they're like, "Oh, we try to find your average points." And so it's all of these things connecting together.

Michael Holtz: The start seeing.

Kourtney Purham: Yeah, exactly.

Michael Holtz: [inaudible 00:27:27]

Kourtney Purham: I want kids to see the connection. I don't think that students, especially in these underserved neighborhoods, are just waking up jumping out of bed and saying, "Let me go learn Pythagorean's theorem." Why am I learning this? So just for me, I spend the extra time of making the connection. I want them. So when a kid says, "I want to be an engineer," it's not just random. They know what an engineer is, they've seen what engineers do. They've gone to a site where engineers are, we've talked about in the classroom. So, it's putting all together. Never too early to be great.

Michael Holtz: Love it. Love it. Love it. What would you tell other teachers if they had the opportunity to apply for the CIA Mission Possible next year, what would you tell them?

Kourtney Purham: First of all, I would tell them to do it. Teachers sometimes, they get like, "Oh, what do I have to do?" Or they'll say, "I'm not that creative." And I know that happened a lot this year. Teachers would come to me like, "Well, you're the creative one. Just tell us how to do it." And I'm like, no, you could be creative too. So first of all, I would tell them to do it. And then I would tell them to just really think outside the box and how they want their students to be. So, you want your classrooms to be a special experience, so what would you do if your kids can have a specialized experience, what would you have them do? What would that look like? And then now thinking about this competition, what would you do in advance to make sure that they have the specialized thing?

So that's what I use, and always use your skills and talents. I feel like every teacher has this background skill and talent that they never tell you about like, "Oh, I do backpacking." And I'm like, well, create something around it. I just feel like teachers don't always... There's like this persona of what you should be like as a teacher. Wear the dress, wear the suit and tie, be stern, look serious. I'm like, that's not real. When teachers take their clothes off, they have tattoos, they have piercings. They're these humans, it's like Clark Kent. I'm like, show them Clark Kent. Leave Superman at home sometimes. And so that's what I would tell teachers, be yourself. Use your true and natural hobbies and talents, and incorporate it to compete, but also to compete in your classroom. So that's what I would tell them.

Michael Holtz: Last question. What brings you joy?

Kourtney Purham: Joy, all around joy is sports and music. That's just my jam, as people say. I'm going to listen to music all day. I'm going to add my own twist to whatever I'm listening to, and I play football all year round. Literally, I play football all year round. So, those things make me happy. Those things make me excited to come into work because I know, hey, I got practice today. Or I've listened to a good song in a parking lot as I came in and the kids are like, "Miss Purham, that's you? I know that song, how you know that song?" Those things bring me joy, and I feel like when you have things that bring you joy, you can show up as your best self in any setting. So, my kids will never see me coming to work angry. I live literally five minutes away from here, which means I'm eight minutes away from Kramer so I don't have traffic. I don't have those type of stresses. I come to work, I smile when I walk in, I talk to everybody. I've listened to my music. I know I have a game at the end of the week, and I'm happy. That's what brings me joy.

Michael Holtz: Awesome. Thank you so much.

Kourtney Purham: No problem. I appreciate this.

Michael Holtz: This was great. Absolutely. I appreciate you taking the time.

Kourtney Purham: No worries.

Michael Holtz: Cool.

Speaker 3: Thank you for listening to the ORISE Featurecast. To learn more about the Oak Ridge Institute for Science and Education, visit orise.orau.gov, or find us on Facebook, Twitter, and Instagram at ORISE Connect.