Transcript from Teacher Chat:

Bringing Computer Science to Middle School

K. Gaier Evans: So I'll go ahead and get us started. My name is Kelly Gaier Evans, I'm here at Battelle. Battelle is a science and engineering organization, who is also really invested in STEM education across the state of Ohio, and manages the Ohio STEM Learning Network, and our partnership with Code.org here in the state of Ohio.

K. Gaier Evans: So with that I'm not going to share much of the work that we do but rather feature Elizabeth and La Shawna who are both using Computer Science Discoveries.

K. Gaier Evans: So, if you guys don't mind, introduce yourself, your name, what do you teach, beyond computer science and with computer science and then tell us a little bit about the type of school that you teach in. Elizabeth we'll have you go first.

Elizabeth: I'm Elizabeth Davis and I teach in Wadsworth Schools and I teach a seventh-grade computer course.

Elizabeth: I got started with Code kind just like everybody else does. I got curious and started digging around for a curriculum that I could kind of start putting some coding into this computer class, that's all it was called. I sort of stumbled on Code.org and got started with them.

Elizabeth: I've been working with Code.org for a couple years now. I started with using their curriculum. I piloted the Computer Science Discoveries and then continued on to become a facilitator for their teacher training.

K. Gaier Evans: And a little bit about the school that you're at and that you teach at.

Elizabeth: Sure, Wadsworth is a suburban school, semi-rural in a part of the population. Mostly white.

Elizabeth: I'm trying to think of how big our student population is. I think our graduating classes are right around 350 students. If you want to get an idea for that.

Elizabeth: We just have one high school, one middle school and five elementaries and an intermediate school.

K. Gaier Evans: Okay, excellent. And La Shawna, what do you teach, tell us about something about your school.

La Shawna: My name is LaShawna Grimes, I'm at Emmanuel Christian academy. I'm the Technology Director so I am the Computer Science Teacher for K-8. We just had a teacher leave in the middle of the year so now I'm in the classroom teaching language arts until the end of the year as well as computer science until the end of the year.

La Shawna: Emmanuel is a private school and we are early education through eight, we have six months through eighth grade. Here we are 99% African-American. Most of our kids come from inner-city and most of them are low income. That pretty much sums up at our school. We don't have a lot of diversity here. We have one of each grade K-8.

K. Gaier Evans: Okay, excellent. Let's jump into your Computer Science Professional Learning experience and then we'll talk a little bit of what's happening inside your classroom. What was the Code.org Professional Learning program like for you?

La Shawna: For me, my masters is in instructional technology so when I got promoted to technology director, I was also told I was teaching technology. Mostly they wanted me to teach typing. With other stuff trickled in there.

La Shawna: But in my masters I kind of really had a pulling towards coding. So I was looking for a program that I could incorporate into the classroom even be for my students.

La Shawna: And I came across Code.org, just researching it online and I did it the first year, Computer Science Discoveries, all on my own, before I got into the program.

La Shawna: That made me think, okay I need to get into the program. It was hard. I didn't have a lot of know-how about how to do it. I did have the resources so, that was great because you guys have a ton of videos. But the timing and assessment was really hard for me.

La Shawna: I'm going through the program, that helps. I was able to learn how to better time out the lessons. I was able to learn how to introduce the lessons and maybe different ways to introduce the lessons that I had been doing. And also I was able to learn about a ton of resources through the teacher community.

K. Gaier Evans: Excellent, thank you. La Shawna is a member of our current cohort which we just closed out two weeks ago on the 23rd.

K. Gaier Evans: And Elizabeth, you mentioned you were part of the pilot. Do you want to talk a little bit about your professional learning experience through Computer Science Discoveries?

Elizabeth: I actually started with Code.org with their computer science and science project where they were working with Project GUS. That was my first kind of adventure into it.

Elizabeth: But I had a really hard time applying it to my classroom because it was so science specific and I wasn't teaching a science class.

Elizabeth: When I heard that Code.org was coming up with a middle school program, I applied to pilot and was accepted. Which I was really excited about because there were 42 people across the U.S. and I was able to do that.

Elizabeth: It was definitely a crash course. The work that we do in one week and the four workshops throughout the school year, now we did in three days in Arizona.

Elizabeth: They took us all out there and we did that over three days and then we used that curriculum and met with the Code.org staff regularly throughout the school year.

Elizabeth: The thing that kept me coming back, the thing that made me want to be a facilitator and work with Code.org was that they are so responsive to teachers. They wanted to incorporate what actually happens when the rubber hits the road in the classroom.

Elizabeth: So I stuck with it and I am actually witnessing the third iteration of the curriculum at this point. They're starting to look at even more changes and growth, and all of it based on what teachers provide as feedback.

Elizabeth: That's really the thing I like about it as far as a program. And then as far as the curriculum, it's fun, the kids enjoy it and it takes into account the developmental appropriateness for middle schooler.

Elizabeth: I think it can move up and down and that's why there are people who use it in high school. But it really thinks more about a middle schooler and what they need and so I appreciate that about it.

K. Gaier Evans: Excellent. I'm going to ask one more question and then I'm going to kind of give a pause, that way, Craig, if you have any questions, you can either type them in or just jump in. That way we're able to answer your specific questions but also keep to twenty minutes.

K. Gaier Evans: How did you manage the workload of your classroom responsibilities knowing, La Shawna you're teaching English and computer science and Elizabeth, I think you're also doing English and computer science, right?

Elizabeth: I used to do English, I don't anymore. I'm just doing Computer Science.

K. Gaier Evans: I did not know that about this year.

K. Gaier Evans: How did you manage the workload of your classroom responsibilities while also completing the program?

La Shawna: I would love to. For the most of the year I just taught computer science. I've only been the Language Arts teacher for the last two weeks. Literally, she just left.

La Shawna: Right now they have me only teaching computer science one day because sometimes I think they don't see that as a clear core class.

La Shawna: So they're like 'Well, you can just teach it on Fridays.'

La Shawna: Right now that's what I'm doing. We're working through as much as we can work through until the end of the year, letting them know that whatever we finish and whatever we stop, it is okay.

La Shawna: Because they're still getting exposure. My eighth graders are doing HTML, my seventh graders are doing Javascript, my fifth graders are doing the Intro To Computer. They did Chapter One and they're just now moving on to HTML. And for my fourth and fifth graders, I'm using Fundamentals.

K. Gaier Evans: Okay.

La Shawna: I'm letting them know that we'll get as far as we can get and take what we learn from that and move on to the next.

La Shawna: The rest of them I'll have next year so I can make up that time.

La Shawna: I'm most concerned about my eighth graders. But they have a good grip on it.

La Shawna: I think that a lot of them will continue and what I did was, even from Code.org, they helped me to create an internship for a couple of my eighth graders where now they get to get out of class and they come on my admin, then on Wednesdays work with me on my tech department, on troubleshooting, fixing the computer. They learned about the inventory and how to sign computers out and different things like that. He's actually putting a computer together right now. I gave him an old computer and he's putting it back together and trying to get it to work.

La Shawna: This program has opened so many doors and especially because in the African-American community with girls, we don't see a lot of it here.

La Shawna: Even reaching out to some of our parents, one of our parents, he designed our website. He owns his own company. He came in to talk to the kids about Coding. And he designed our website. So he showed them and kind of took them through the backend on HTML and everything.

La Shawna: This class and just, me being in the cohort, has opened up so many doors for me. And a lot of the things that Code.org incorporates, because I was also on a writing curriculum team for ODE for the computer science standards that will be implemented hopefully in the fall will be implemented.

La Shawna: A lot of the standards are already incorporated in the Code.org curriculum. Which is great.

K. Gaier Evans: So any challenges with managing any of the work for Professional Learning program while also running your computer science class?

La Shawna: We never get to the end. I've never gotten to the end of anything, ever. Period. That is the challenge.

La Shawna: I had to come with the grips on, I don't have to do everything in the curriculum. I can tailor it to my class, to my students. I can pick this activity and maybe not do that activity.

La Shawna: I was at first just trying to do everything and then it was getting so frustrating because I'm like, we're never gonna complete any one thing.

La Shawna: So just being flexible, seeing what works, knowing that you don't have to do every single activity. Knowing that you can change the activity, shorten them. Make them different, take an aspect out of it and then move on as long as you get the idea that's great.

K. Gaier Evans: Excellent. Thank you.

K. Gaier Evans: Elizabeth, any insights on your end of managing classroom responsibilities. And from your end you're facilitating this year but also having gone through the program?

Elizabeth: The nice part about it is, you're not looking at a program that's going to give you homework for the sake of homework or anything like that.

Elizabeth: Everything you do in the program really is applicable to what you are doing in the classroom.

Elizabeth: I don't feel like it ever was an added burden. I always felt like it was something where it was like, oh good, I've got a new thing I can use. Where, you know, hmm, I'll have to try that.

Elizabeth: I never really felt like I was having work piled on. It was really more of a relief to me because it was answering questions that I didn't even know I had until I started trying it.

Elizabeth: Kind of piggy-backing on what La Shawna was saying, just knowing that I don't have to do absolutely everything in my classroom and that experiencing it in the sessions when I'm learning and things like that.

Elizabeth: I feel like I know where I'm going and where we came from. And I also feel like I created a network that when I was stuck, I had somebody to go to.

La Shawna: And the one thing...

Elizabeth: \* felt like it was piling on.

La Shawna: The one thing I thought about as you were asking me what problems did I have, especially the first year I taught it before I did the Code.org training, was assessment. That was a big one for me. What to grade, what do I put, because we have to have so many grades in the grade book. So what am I grading? At what point do I stop and grade this? Quizzes, grades with an assessment was a biggie for me.

La Shawna: The teacher community is a great resource for that. It's a lot of teacher created quizzes, projects, little bitty things that you can do like for info, knowing the parts of a computer, it's just as simple as a Google drawing where they drag the computer, input, output, it's a real easy assessment.

Elizabeth: Excellent. I'm going to pause there and, Craig, did you have any questions for La Shawna or Elizabeth?

Craig: Yeah just one quick question. I am entirely new to teaching and new to Code.org. We did do this year. We did several of the hour of code activities.

Craig: What's the best thing I could do between now and July to prepare or books to read or whatever, to prepare for the course of learning that we're going get in July?

La Shawna: What I thought was helpful was to make sure that you go through the modules and the lessons yourself first. Because, even I got stuck on certain things and I'm like, Okay, I'm stuck. So trying to work through that, it's okay to do but you want to be able to help and guide your kids. Everybody shouldn't be frustrated in the classroom, including you.

La Shawna: You want to be able to help and guide your students through that process. It was much easier to do that once I had completed and gotten through it and even understood some of the frustrations that my kids were probably going to have on through those lessons and modules.

La Shawna: I did it even before the Code.org too so I could come here with questions. Okay, I got stuck on this one when I did this module or this and this.

La Shawna: How did you teach it? What did you do differently? What do you suggest?

La Shawna: I already had that in my head because I had already started going through the curriculum.

Elizabeth: I wouldn't beat yourself up trying to do it all before the workshop. Sometimes it's really nice to be able to come in and kind of know what you're looking for. But there are plenty of people who come in and don't know what they're looking for. They're just kind of looking. And get a nice introduction to the curriculum and get to be very hands on in the sessions that we do.

Elizabeth: So I could see both ways. I think that the biggest thing is, spend a few minutes with the curriculum, understand the 10,000 foot view of it. And dig around where you're curious.

Elizabeth: But I don't know if there is anything that you really would have to do before you came.

La Shawna: No, and they'll walk you through even how to- You'll teach many lessons. So that's very helpful because I learned to not always start from the beginning, to start from the end and that worked so well this year. And I just learned that in Code.org because I've always started from the beginning and worked backwards. So to do the opposite, I was like, I don't know about that. But it worked really well in class. I'm going to try it. I did and it worked and I did it almost every time in introducing a new concept.

K. Gaier Evans: Okay. I am going to ask each of you to leave Craig and our audiences reading the post one piece of advice for a teacher or a principal considering offering computer science discovery to their students next year.

K. Gaier Evans: So if you could in a sentence or two.

La Shawna: Be open. Be flexible. Be willing to learn, that's it.

La Shawna: Just like we tell the students, it's okay to not know everything and to make mistakes just as long as we learn how to improve upon it. And it's going to be a work in progress and you'll get better and better each time.

K. Gaier Evans: I love that.

K. Gaier Evans: Elizabeth, you have a hard piece of advice to follow there.

Elizabeth: I guess I would be speaking more directly to those people who are on the fence. Whether or not to bring computer science to their classes or to their schools.

Elizabeth: I feel like our job is always to prepare students for what's coming and we don't really know that. But we do know that computer science is going to be a part of it.

Elizabeth: So it feels like it just needs to be a part of the curriculum and if you don't have it there already, this is such a nice entry point. And to just be curious.

Elizabeth: Along with what La Shawna said, all of those things and I would add, be curious. Because, your kids are.

K. Gaier Evans: Awesome. Well thank you both.