



Digital Aspirations in Education Podcast S1E5 (this transcript has been edited for clarity)

Workforce Development and the Next Frontier of Skilled Labor - Engineering Technologies, Telecom and 5G, IoT, and Video Game Design

Jared Heiner, Director of Education Innovation and Sales at Aspire Technology Partners, with Dr. Joseph Dragone, Senior Executive Officer at NYS Capital Region BOCES

Jared Heiner: Today, I am very excited. I have got Dr. Joseph Dragone, who is the Senior Executive Officer at the Capital Region BOCES. He is in charge of, and responsible for, program development, building organizational capacity, and day-to-day oversight of BOCES programs. Prior to that, he was the superintendent at Ballston Spa. And prior to that, he was an assistant superintendent at the Albany Schools. And prior to that, he worked in the Cohoes City School District.

He is an amazing resource and an expert on workforce development, things like college readiness, and Joe, correct me if I'm wrong, keep me honest here: In 2018, you did some presentations for New York State Economic Development Council, as well as the Empire State STEM Learning Network.

Dr. Joseph Dragone: Yes. And thank you, Jared. Thank you, Aspire, and thank you to Cisco for the opportunity. A lot of the work I am involved with, because you cannot have workforce development without having an economic development question; so, a lot of what I am involved in parallels those two tracks. I am fortunate to sit and be part of our Regional Economic Development Council for the Capital Region, which is about eight counties in New York State. It is one of ten regions in New York State. So, we work with the governor's office and work through projects that really impact what workforce development opportunities look like in our region.

JH: So, Joe, you bring up a really interesting concept, and especially right now when we talk about career readiness, because we're looking at a very tumultuous environment. From an economic standpoint, things are shifting. When the Capital Region BOCES says, "Hey, we're going to support career development," what are the objectives that you are looking for? How are you going through and,

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essentially, saying, "These are the skills we need," and how are you preparing the kids, students, or even adults who like to go?

Dr. Dragone: Well, we really take a regional perspective to this work. And, as I mentioned, these parallel paths of workforce development and economic development are completely interrelated. So, a lot of the work that we do reflects on industries in our region, and we work incredibly close with all of our partners, and businesses, and industry—our partners at higher education. We have so many jobs in our own backyard right here. So, we work to make sure that we are training and meeting the needs of our partners to help drive tomorrow's workforce.

And it continues to evolve, and it really depends on industry. For folks that know BOCES and the history of BOCES, we have always been strong in career and technical education training. And that has not changed. And we have a tremendous need right now for all the traditional trades, for lack of a better word or better term, of what folks generally understand them as. And that includes, of course, construction trades, electrical trades, HVAC, and those related industries. Demand in our region right now is huge. All our students come through. With their certifications, they can either go right out and be employed or they can go on to higher education. So, there's great opportunity there.

But a lot of the industries, or different sectors, that drive workforce in our region are also beyond that, specifically to video game design, the work we do with entertainment technologies, the programs we have in engineering technologies, the new program that we have in telecom, 5G, IoT, and a lot of the work that Aspire's actually engaged in, and Cisco as well. This is the next frontier of what the skilled labor market looks like. So, we have a real strong balance of serving across many sectors. And there is just so much opportunity right here in the Tech Valley Region of New York State, specifically within the eight counties that make up the Capital region.

Opportunities are tremendous, and the sectors continue to grow. We have a very strong, as I mentioned, video game cluster in Troy, New York. There has been recognition. And we are very fortunate that our program has a waiting list. It is a great first step for anyone interested in different aspects of that industry. So, as things continue to shift, it is our job to serve the employers. And as we work through that, we make sure that we work with them to provide real strong career development and great workforce pathways for all of the students we have, whether they are in school or part of our adult learning tracks as well.

JH: And so, one of the things I find most fascinating just listening to you talk, back in the day, when I was younger, and I won't date myself by giving away anything, but there was a handful of different options

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through the BOCES. And it seems like that course catalog has just exploded. And it sounds like the relationships with the community are really what is at heart in driving that. Especially, to your point, a lot of the technology seems to be looking for more and more hands to get involved. Is that an accurate statement?

Dr. Dragone: Oh, absolutely, Jared. And the key is pathway, and that is really what it is about. Workforce development needs to be a pathway that leads to gainful employment that [leads to] economic development. I mean, in simplest terms, making sure that we train for opportunity is the best way to make sure that anyone who is participating in our programs can reach that ultimate outcome. And, again, it might be going directly to the workforce or it might be going through a higher education pathway—it might be engaged in different post-secondary opportunities.

But ultimately, the core of training and that background—the training really lends itself to where the labor opportunities are in the region. And our focus is on that, and our 300 plus partners. You mentioned our course catalog. We have almost 48 offerings across a variety of different traditional trades, and we have emerging career and technical education fields across nine career clusters, nine nationally recognized career clusters that really provide a rich fabric and a lot of different pathways for students interested in going into technical training.

JH: And I mean, that right there is an amazing accomplishment to have that many opportunities. And to your point, I think it is a reflection of what's taking place locally. And, from an economic standpoint, there is a lot of opportunity. There was a philosophy that I had bumped into a couple of years ago talking about how formalized education is very much fact-based. When you start getting into some of the trades and actually getting your hands on it, some of the soft skills get developed. Is that still the case, where being able to get right in there, roll up your sleeves, and do the actual physical work, especially when it's tied to an industry or company that's working alongside you, do you get the sense that it's helping build character and really helping folks - students, I should say - with their ability to look at those jobs and say, "I'm prepared"?

Dr. Dragone: Yeah, definitely, no question with that, Jared. And it is interesting you mentioned soft skills. Sometimes, it is called 21st century skills. We are already in 2021, and we still hear about skills for 21st Century, and that ship sailed a little bit. And we hope—we are certain that our alignment is there. You hear about critical thinking; you hear about the job-based competencies that employers expect. And we really strive, and we take a lot of pride in providing that balance.

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So, along with the technical training, we have an employability profile that captures, again, all those "soft skills," expectation of the workforce. So, when we have our job fairs and those kinds of events where our employers congregate and have opportunities to interview and hire our kids right on the spot, they have that profile with them that says that they have exceeded certain measures to make them not only a skilled employee in the field but someone that possesses the soft skills that make them that much more of an asset.

And we know that teamwork, collaboration, communication, critical thinking—all of these pieces—innovation, creativity—these different things that employers want to see beyond technical skills—somebody can be very skilled, very, very talented on what they do, and they might not be able to get along with the soul that they have to work with, and we all know that much of our work is accomplished in teams. So, this balancing of our programs, I think, supports the well-rounded job candidate that our employers are looking for.

Student Profiles, Opportunities, and New Learning Challenges

JH: What types of students are you seeing? And again, I know there's a couple different ways to answer this question because you have got school-aged students, but then you have adult learners as well. But what is the profile of the student who is going into these programs or isn't there one anymore? Because I was thinking, I took the very traditional route but at the same time, if you were telling me that there was an option of going into video game design, I really have to stop and say, "Boy, that might be a good thing to do," because, in the spirit of transparency, I was a six-year college candidate, and I ended up with two degrees, but I didn't know what I wanted to do. So, are you seeing a profile? or is it becoming more and more of just another option?

Dr. Dragone: Yeah, I think just another option is a nice way to capture it because it has changed so much as the industry's continuing to change and the work in the industries continues to evolve. What is really interesting, and more challenging, I think, I mean, holistically, is the shift to remote learning and the challenges that come along with remote learning for the kids. Ultimately, especially the high school students that select into the programs – students like doing things. They like doing things. They like working in a very concrete way to accomplish something.

And, again, whether it's in a laptop designing something, whether it is working in a hair or nail studio, or whether it's designing global fashion attire, or whether it's ripping the transmission out of a car; whether it's being with engineering tech related to the semiconductor industry, whether it's pulling

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cable—I mean the list goes on and on—but I think the common thread, ultimately, is the engagement. These students want to be engaged in a way that they can apply skills and do things. And if you ask a hundred of them, I will guarantee you, at least, 99 of them all will say they like being here because they like being involved and they like working with their hands. They like working towards accomplishing a task and applying what they are doing as opposed to sitting there and learning it.

JH: Yeah. I think that is a common thread for most. I mean, we have heard this conversation a million times where you look at kindergartners or preschool kids, and they sit, and they play, and they want to put their hands-on things. I think we train folks to sit sometimes. And certainly, that is changed. No question about it. But, again, I think it is going to become more and more of an option to say, "I want to explore." When the career paths are exploding, to be able to say, "Hey, this is something I want to give a shot to."

And, by the way, I mean, again, correct me if I am wrong, there is a lot of certifications that are being passed out once you have accomplished and gone through the program. So, either way, you are going to have a certification and you can use that maybe to gain entry or use it to maybe go in a different direction. But it seems to me like, again, the options available will propel you—even getting your foot in the door is better than not having a foot in the door at all.

Dr. Dragone: Absolutely. And the certifications, it is interesting. Related to COVID, I mean they continue to evolve. And that is something I really probably moved on quickly. There are COVID-19 food handling certifications that are part of that. There are COVID-19 different certifications in health, and safety, and hygiene. So, that area continues to grow. We have always been very strong in supporting the traditional fabric of OSHA training, and the other expectations for anybody entering the workforce [from] any of these types of programs.

But as everything continues to evolve, including the certification part of the field, whether it's through the formal training passes, through what we're seeing now at badging and different things that are going on, it's important for us, and we do this in partnership with our business partners, to make sure that we're trying to be current as possible and provide the most training and the most certifications that are relevant for any of the career pathways.

Virtual Learning and Overcoming the Digital Divide

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JH: Yeah, that is fascinating. Again, to think that you were able to turn so quickly, and look at the COVID pieces, and all those different certifications, I mean, what a great experience for anyone's trying to get into the field to have those. My thought then turns to the fact that with this pandemic, we have had tons of conversations about virtual learning, of which I am a huge fan.

However, it also brings to light the fact that we have this digital divide, and not everyone has access to some of the technology or the connectivity with the technology. And for programs that require so much hands-on [training], how have you overcome that? And, looking down the road, what are some of your thoughts around how that is going to be a factor because, again, we do not see much of an end, if you will, to this pandemic. Hopefully, we find one quickly. But to that point, there is always going to be something, and that digital divide has got to be an obstacle.

Dr. Dragone: Yeah. I think we look at it, really, I guess, in two different parts. And one is the traditional digital divide - again, for lack of a better way to describe it - from a resource perspective. So, the first thing that we had to make sure that we did is whoever needs technology in their hands to be able to engage from what we've been going through since mid-March here in New York State and throughout the country. So, in terms of an access perspective, we wanted to make sure that all of our students have the technology they need, which we supported. We do have a lot of rural areas where, unfortunately, we don't have any control over world broadband, but where we could support students with hotspots and other things and have that stuff in place, and we made sure that we did. So, at least, they can engage as best as they can.

The second part, which is certainly more difficult and just speaks to what we were just talking about, is that the students are part of this because they want to be engaged in the work. So, how do we try to engage them as much as possible as we have been going through this? So, I guess just a couple of examples come to mind. 1.) through our culinary program where students were sharing. They were doing a Chopped type of lesson where they would go to the pantry, and see what's in there, and the chef shop would say, "Pull seven ingredients and tell me based on what we've been working out what you would put together." So, kids were in their kitchens doing that kind of work.

It is a creative approach. We have one of our chefs, who also has a food truck down his driveway, cooking, showing different aspects of the food truck, and talking about different aspects of the business with those kinds of things as well, because many of these students are entrepreneurial with the work that they're engaged in. So, the thinking is how to be different. Some are getting into welding, and more traditional trades: welding, electrical, the work that goes on in auto. Most of these students have

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projects at home that they are always working on. So, the focus really was, how can we bring what kids were doing at home into the classroom and to be able to share?

So, a lot of students were taking what they were learning. They were applying it to projects or work that they were doing in their garage, candidly in the garage, in their driveway. And, as part of the broadcast or part of working with the teachers, they were sharing what they were doing, and how they were applying things, and working on projects on their own, and making it applicable to what's going on in class. But there is no question, our goal is to be back. We need to be back in some ways, shape, or form. We want our kids back in our labs. They don't have a lot of the specific equipment at home as well, especially when it comes to welding, and HVAC, and some other things. I mean, it is equipment that we have in our lab facilities.

So, looking ahead, because all of our programs are co-designed with academics, the academics are integrated as part of the lab experience. So, looking to the fall, right now we are designing how we can use kids' time while they are here. So, while they are here, they are really focused in the lab, they are doing the hands-on work, they're doing the projects, they're doing the problem-based pieces to that experience. And then, when they are offline, they can be working more deliberately just on the academic part. So, we do a hybrid where we can increase the kids' time on the campus, in the labs, and really engage in that kind of learning.

JH: Yeah. And again, I think you have hit the nail on the head. Their ability to put their hands on things and really get a chance to try these things out, I guess, it opens up the opportunity to make more mistakes, but that's what gets you better. And, again, it is the experience. I think that helps above and beyond anything else. And it sounds like there is just a myriad of opportunities from that perspective.

The Future of Career Development and Developing Trends

JH: Where do you see some of the career development pieces going in the future? If you look five years out, are there any trends? I mean, obviously, to your point, doing auto work, HVAC, I mean, there is so many, in cosmetology, they are not going away. But do you see any trends?

Dr. Dragone: Well, I think it varies to a large degree by region and varies by sector. Part of what we are seeing, and we are working on trying to move this way in the fall, is a lot of the site-based experiences. Part of what our kids do is they work. They get site-based hours and work-based learning. They get to go to a job site regardless of what it is or engage with professionals in the field. That has basically been put on hold since last March. So, starting that back up and looking at what hybrids of those things look like.

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One interesting example is our Advanced Medical Program, which is, again, our New Visions Medical Program, a technical training program, but this really is for students who want to move, ultimately, into advanced medical degrees. So, what they do is clinical rotations at a hospital. They are very engaged with all the aspects of the technical training that goes along with that. But adjusting to the current circumstances - and, actually, it was an unintended consequence - is the ability to bring in different doctors from different areas via WebEx, different technology; and having that opportunity has actually allowed more folks to engage as we look ahead; where before, if it was on-site full-time, there was a rotation that was locked into. Now, as a hybrid model, there's opportunities on different days to hear from different doctors with different specialties.

So, everything continues to evolve. The training continues to evolve. The approach to the training continues to evolve. I think one thing that will never change is mentorship, and that has been a part of training no matter what field it is in for an eternity. I do not see that going away. There will always be people with experience. Sharing experiences with people coming through the ranks will always be an important part of what training looks like. I just think that what shape that takes is going to continue to evolve over time.

JH: No doubt. No doubt. Again, it is fascinating. I wish some of these options have been available when I was a student. And again, I speak from the angle of having been a high school English teacher. And now, I work in the IT field. There is just so many different things to experience. And I think the work world is changing so dramatically, especially with technology, that there are just so many different ways that you can approach any field and, ultimately, find what you like, what you're good at, and interweave it in.

Adult Education Growth

JH: From an adult education standpoint, have you seen growth in those fields as well? And again, that's got to be a little bit different because you're not dealing with populations that are essentially, and I'm using air quotes here which don't work for podcast, but they're assigned to be at school, so to speak. It is got to be harder for adult population with work and transportation. Has that field been growing or that area?

Dr. Dragone: We run, I think, the largest adult healthcare training program in the region, about 150 students. And again, that is an LPN track, with the other alphabet soup certifications along the way, namely, the CNA, the home health care aide, and different aspects that all deal with entry-level healthcare training, which again, ultimately, leads to the LPN. We have seen no decrease in any of that

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enrollment. We are seeing an increase in enrollment, and our traditional welding program, our HVAC program. And with demand, we are seeing for construction trades and electrical, we are launching those programs in the fall. So, the need is still there, and I still do not see the demand because we get calls every day.

And a lot of times what we do is we are able to support the adult students engaged in this work with different funding streams. We work with our workforce development boards where there's Federal money that is available to be able to support training. We work with all our business partners as well. A lot of times, if they are working part-time, they might send them back to work to get additional training or additional certification. They will underwrite that. Sometimes, that also translates into supporting undergraduate education as well or a two-year degree, I should say, and training in specific fields that they might be working for.

I mean, we see that a lot in manufacturing, specifically because of the demand in that area too. So, the training continues, the resources are still there. They are very traditional, the way some of those Federal money comes. That has always been the case. It is targeted for 18 and older students. So, those constructs remain in place. It is going to be hard to say in the fall how everything comes together, but like I said, we are enrolling everything now. We work with different organizations as well with supporting other grants that we have seen through the support of New York State. And with that money, we are also fortunate to provide financial support for some of the barriers you alluded to as well. There's transportation, there's childcare, different kinds of things with that.

So, when we look at our providers, when we look at our partners, when we look at our grant sources, when we look at the priorities of the region, the priorities of the state, it's kind of putting the whole puzzle together and best leveraging all of the assets to give the adult students in the program the best opportunities.

JH: Well, Joe, I have to tell you, you're a wealth of information. I mean, it's amazing how much is going on and truly a testament to the work that you're doing and what Capital Region BOCES is doing to create all these opportunities, which is why, obviously, when you talk about it, there's obviously a tremendous amount of success. And I think I speak on behalf of everyone, including Aspire, when I say we're really looking forward to moving forward with programming and having our IoT lab on-site on your South Campus, and being able to weave in some of those different angles of the Internet of Things and all of these different programs. So, it is really exciting.

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Again, having worked in education for a number of years, it's exciting to hear about these types of programming. And sometimes, I think it goes unnoticed, but being able to just have this time with you and listen, it's fascinating, and it certainly is eye-opening that these opportunities exist for the benefit of the communities, as well as the industry. So, I appreciate you joining us and sharing what you are up to and all these great experiences. So, I thank you.

Dr. Dragone: Yeah, it has been my pleasure. And again, thank you to Aspire and the great work, as you alluded to, we are doing together. Really, this launch of the lab is going to be a tremendous experience. Certainly, there is not like it in our region, especially immersive training opportunities in the growing technology sector. So, it is a great partnership, and we are looking forward to getting the programs up and running. And it is great having the opportunity to share this with everyone who is listening on our podcast. And if anybody wants information about our programs, they can always contact me or yourself, of course, through Aspire at their convenience.

JH: Awesome. Well, Dr. Dragone, thank you so much. And again, for everyone else, thank you for joining us in the Aspirations in Education Podcast, brought to you by Aspire Technology Partners and Cisco. We will see you on the next one.

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