



John J. Heldrich Center for Workforce Development

Transcript
Episode 10: CTE
(Jackie Burke/Jimmy Green)

Podcast Introduction (*music playing*): Welcome to *Work Trends RU*, presented by the Heldrich Center for Workforce Development at Rutgers, The State University of New Jersey. In each episode, we speak with experts, policymakers, and thought leaders about the issues affecting work, education, and the economy - exploring job market trends, economic challenges, and how innovations like AI are shaping the future of work.

Join us as we discuss the evolving landscape of work and education on *Work Trends RU*. (*music ends*)

Laurie Harrington: Thank you for joining us for the next episode of *Work Trends RU*. I'm Laurie Harrington, the executive director of the John J. Heldrich Center for Workforce Development. Today, I am joined by Jimmy Green, a research project manager at the Heldrich Center. Jimmy's primary research agenda is focused on performance measurement and evaluation of public education.

I'm also joined by Jackie Burke, the president of New Jersey's Council on County Vocational Technical Schools. Thank you both for being here today.

Jackie Burke: Thanks for having us.

Laurie Harrington: I'll start with you, Jimmy. Can you tell me a little bit about the research you do at the Heldrich Center and specifically about the research you do on career and technical education in New Jersey?

Jimmy Green: I do applied research at the intersection education and workforce development. A lot of my work focuses on understanding how young people transition from high school into post-secondary education in the labor market and where those pathways work well or fall apart. And what's always interested me about this work is seeing how systems, not individual choices, shape those outcomes.

When people talk about career and technical education, or CTE, they're talking about programs that combine classroom learning with hands-on career focused training. You see these programs in high schools and colleges in areas like healthcare, information technology, construction, and advanced manufacturing. The idea is to help students build real skills and have clear options after high school, whether that means college, more training, or going straight into work.

From an analysis perspective, this work is possible because New Jersey has a statewide longitudinal data system that allows us to link high school records to post-secondary enrollment and completion data, and then to workforce data such as unemployment insurance wage records. And with those connections, we can examine outcomes like completion, employment, earnings, and how long it takes students to connect to work after leaving high school or a post-secondary pathway. And we share this research through public reports like data briefs, presentations, and other online tools like dashboards with interactive visuals. And often it's in partnership with New Jersey state agencies.

The findings are also used in policy discussions and program planning conversations across the state. The analysis is intended to support decision-making by policymakers, district leaders, and practitioners who design and run CTE programs. It also matters for students and families because it helps make CTE pathways more transparent by showing what programs lead to, what outcomes students can expect, and how those pathways connect to opportunities after high school.

Laurie Harrington: So, based on your research, how many learners in New Jersey participate in CTE? And how does New Jersey compare to national participation in CTE?

Jimmy Green: Participation in CTE depends a lot on how programs are structured and how students are able to access them. In New Jersey, CTE is delivered across several types of providers. Students can participate through county vocational technical school districts, comprehensive high schools, community colleges, and adult education providers.

That structure creates multiple entry points into CTE across the state. And this mixed delivery model expands overall reach of CTE. But it also means that access and the depth of participation can vary depending on local offerings, transportation, scheduling, and awareness. In terms of scale, in the 2023 and 2024 school year, we estimate that about 135,000 learners statewide participated in CTE. Of those, approximately 78,000 were secondary students enrolled through high school programs, and nearly 57,000 were post-secondary or adult learners participating through colleges or adult education pathways.

One important thing to note is that there isn't a single uniform pathway into CTE in New Jersey. Entry points vary based on what programs are available locally and how students are able to access them. When you zoom out to the national level, participation in CTE is quite common. Nationally, research shows that about 85 % of students earn at least one CTE credit during high school. At that broad level, rates tend to look relatively similar across gender and across race and ethnicity. Where differences really start to show up is when you look at depth of participation, not just whether a student ever takes a CTE course. For example, nationally, about 48 or 49 % of male students earn three or more CTE credits compared to about 37 % of female students. Asian students participate in CTE at a high rate overall, but are less likely to concentrate in CTE pathways. And rural students tend to show higher levels of participation than students in suburban or city settings.

Laurie Harrington: So, keeping those national differences in mind, when you take a closer look at participation in CTE in New Jersey, what are the big differences you see across demographic groups or career clusters or really even the intensity of participation?

Jimmy Green: When we look at CTE participation in New Jersey, we see clear differences across demographic groups, career clusters, and how deeply students participate.

Students enroll across all 16 career clusters, but participation is concentrated in a smaller number of them. And just to explain what career clusters are, they're a broad grouping of related careers and industries that organize jobs and training around shared skills and it helps students to prepare them for the workforce in a specific field or industry.

And enrollment patterns differ by student group here. So, white and Asian students are overrepresented in New Jersey in clusters such as STEM and health science. And this is similar to the national trends as well, which often require early sequencing and specialized infrastructure. And Hispanic and Black students are more represented in hospitality, human services, and public safety, clusters that are more widely available across districts. And these patterns reflect advising, access, and program structure, I think, rather than differences or interest. And gender shows a similar pattern. Overall participation and completion are close to parity, but that balance mass sorting across clusters. Human services and education and training enroll mostly female students, while transportation, manufacturing, architecture and construction, and information technology enroll mostly male students. Only a small number of clusters approach parity, including finance, marketing, and business management and administration. So, even when overall participation looks balanced, CTE often reflects the same gender differences we see in the labor market.

When we talk about intensity of participation, it helps to distinguish concentrators and completers. A concentrator takes a few CTE courses in an area while a completer finishes the full state approved course sequence for a pathway. For example, a student may concentrate by taking several health sciences courses while a completer finishes the full science sequence required for the program.

And completers tend to mirror the statewide high school population by gender, but compared with the statewide population, and when I say statewide, New Jersey specifically, are more likely to be Hispanic, Black, economically disadvantaged, or receiving special education services. White and Asian students are underrepresented among completers relative to population share. Completion reflects access to the sequence programs, advising quality, and local capacity rather than the motivation again. And then finally, concentrators are clustered in a smaller set of career areas, including arts and audio and visual technology, STEM, health science, and hospitality and tourism. And completion varies by cluster and demographic patterns, differ across them. And, uh, STEM and architecture and construction enroll higher shares of white students, while health science and hospitality and tourism enroll higher shares of black and Hispanic students. Students with disabilities and economically disadvantaged students are more represented in applied and service-oriented clusters.

Laurie Harrington: Thank you, Jimmy. That, that foundational understanding of CTE in New Jersey is so helpful to understand.

Now I'm going to turn it over to Jackie. Jackie, can you tell our listeners a little bit more about the county vocational technical school system in New Jersey and the role of the Council on County Vocational Technical Schools?

Jackie Burke: Sure. So, New Jersey is unique, particular about the way they deliver career and technical education through the vocational technical school districts.

So, what New Jersey does is we have a vocational technical school district for every county in the state. And that school district can have one big school, it can have multiple within the county system, it just varies depending on that county. But what's great about it is that students from across the county can attend the vocational technical school of their county. So, they're able to apply and come to one of the school districts, transportation is provided, so that way it really allows access for students across the county.

The role of the council is really advocacy, so we advocate for the school districts, represent their interests, make sure that people across the state know what's available, that students and families know this is available. And, so, that's kind of the role that we play. But the delivery system is really, I think, one geared toward one of Jimmy's points, trying to provide that maximum amount of access.

Laurie Harrington: From your vantage point, which CTE programs in New Jersey would you say are the most popular among students? And are there any CTE programs that are under development right now that respond to the changes in the labor market?

Jackie Burke: That's a really exciting question, but I'll start with the beginning.

So, our 35,000 students that attend county vocational technical schools, our number one program is actually health sciences. And we vary a little from the statewide popularity in programs because our districts are able to provide larger spaces for things like industrial kitchens and construction sites. So, we have that advantage. And I think that skews a little bit which programs are more popular.

Right now, we have some exciting new programs under development. We just had two districts start AI programs, which is really exciting. They got grants from the Department of Education. We also have aerial unmanned spacecraft, which is up and coming drones and whatnot. So, that's really exciting as well.

Laurie Harrington: And which programs would you say get the most engagement from the business community? And how does the business community engage with the CTE programs in New Jersey?

Jackie Burke: Every program has a business advisory panel, as I'm sure Jimmy knows for every program. And that's how businesses are able to provide situations like work-based learning, guest speakers, field trips. So, they're very involved in making sure it's industry standard equipment, the curriculum is up to date. So, their participation is vital to our district.

Laurie Harrington: When students are considering enrolling in a CTE program at one of the county vocational technical where do they get their information about what's available to them?

Jackie Burke: So, we have our school districts go into middle schools and do presentations because the majority of our districts are nine to 12. So, we go in seventh and eighth grade, talk to the students. There's also social media campaigns, word of mouth. You know, we really do

try to get the word out to as many people as possible. Sometimes, we hear it's the best kept secret, but we do try to make sure that we have the maximum knowledge for our parents, students who want to make that choice because it's not for everyone. It's, you know, nine to 12 for the majority, it's career program focused, every student is enrolled in the career program. So, it's unique and we do try to get that word out. It's always helpful for podcasts like this to try to spread the word and let people know what's available for students who want to pursue a career program. So, it's, you know, students going to college, students going right into the workforce, students going to apprenticeship. So, it's various pathways, but it's all career focused.

Laurie Harrington: Is there information or data you think that the students or families are looking for that they don't already have, that they ask for, that would help them make their decision?

Jackie Burke: Oh, sure. I think all the districts have open houses, which are very helpful. So, students can come in, interact, see what's available, and make a decision from that. Our website, careertechnj.org, has a lot of great information about what programs are available, what school districts offer certain programs. So, I think that's really helpful. I think, you know, for students who have an idea of what they want to do in the future, it's really a great school system.

And our district's, another one of our big advantages is that because we're county based, we have great relationships with the county colleges. So, all of our districts have articulation agreements with their county colleges, as well as the four-year colleges and national colleges as well. And, in fact, last year, 337 students graduated with their AA degree before they graduated with their high school diploma. So, you know, there are really some great opportunities for students and a competitive advantage for those who want to prepare for their career success. We're not training them for jobs, we're training them for careers. So, you know, It's also it's really important for our school districts to be forward thinking, Because you don't know what the careers of tomorrow are, especially with AI. AI is affecting all career pathways. It's not just, its own separate standalone program.

So, using businesses, using industry professionals to keep up with that and make sure that school districts are really keeping an eye to the future, and that's really important. That is one other thing that I did neglect to mention is that our career and technical education programs are all taught by industry professionals. So, these are people who have actually lived the career, know what you need to know, and come in and give that hands-on, real-world environment to the students to really make it meaningful and relevant, which I think is really helpful for today's generation, especially that want to know the why. Why am I learning geometry? Well, so that you can frame a house. Why am I learning physics? And, so, it really provides that real world relevancy as well.

Laurie Harrington: That sounds to me like a real competitive advantage that students who go through the county vocational technical schools have over other students. Are there other advantages that you think are important for our listeners to know about, that students who go through the county vocational technical schools get through that experience?

Jackie Burke: Oh, sure. I mean, the connections to businesses I think are also a great advantage. They're going to make those relationships they can then use in the future, whether they keep in touch and go to college and then come back and have those business connections to, you know, that are going to help pull students who may go out of state to college back into the state. I think it's a great advantage to the school districts. And I think also the employability skills, or some people call them the soft skills, because our kids all have the work-based learning experience. So, they know they learn, you know, you have to show up on time you have to look people in the eye, you have to have a resume. So, we also work on all of those skills because of their work-based learning simulations and environments that we have. So, I think that's also really important. And then there are, some of their work-based learning experiences are paid, so, I think that's a great opportunity for students to go in and experience what their future career environment is going to look like, what that real world is, and also make money while they're doing it, which of course is a huge advantage. And, you know, sometimes kids go in, start in a career program and think, "This is really what I want to do." and then they get through and they think, "You know what, I love this, but maybe it's not my career passion". And they've saved money in college by not pursuing that pathway, knowing that, "Okay, I like it, but it's really going to be more of a hobby". So, you also kind of save money and have that advantage as well.

Laurie Harrington: When you look out at the landscape of CTE in New Jersey, are there areas for expansion or modernization that the school districts are planning for? And, how do the districts stay on top of the changing economic and labor market trends to ensure that their programs are cutting edge and responsive to the actual labor market today?

Jackie Burke: That's a great question. So, our districts just had bunch of new schools and programs come on board. In 2018, the public passed the Securing Our Children's Future Bond Act, which provided \$275 million to county vocational and technical schools for expansion. Because we have about two and a half applicants per seat, we're just not able to accommodate everyone, so with these expansions, new schools, additions, renovations, we're going to be able to serve about 4,700 additional students when they're all up and running and enrolled, which is fantastic because it is a really popular choice for students and parents. But I think you hit on something that's really important for our districts that they spend a lot of time and effort on is looking to the future because they need to prepare kids for the careers of tomorrow and there are going to be careers four years from now that you haven't even thought of yet. So, they're constantly working with workforce development boards, working with employers, working with the labor market analysts to project what can we best teach our students and what can we prepare them for? So, they always are forward thinking. Some of them have futurist committees to come up with, okay, unmanned aerial drones, that's going to be really important. So, let's make sure we get there. But then you also have the core tenets that are always going to be useful to students, such as critical thinking, working in groups, analyzing data. So, all of those core skills are going to be necessary for every career. So, keeping those in mind as well, and then also always keeping an eye to the future.

And also, you know, in the same vein, looking at existing programs and saying, "Which ones are not going to be helpful for our students anymore?". I mean, now that you have AI doing a lot of the coding, what computer science programs are going to become obsolete? And we don't want to prepare students for careers that are no longer necessary. So, there's that constant balance. And I think that's really what makes our school districts unique because they

have to keep that nexus between labor and education and make sure that they are on top of that.

And our superintendents really do a great job and spend a lot of effort doing that. And again, it's the vital role of business and employers in the state and higher education institutions. They work a lot with Rutgers or TCNJ when they're developing programs, like the AI program was developed in concert with TCNJ so that they have their pulse on all different moving parts of this, which is not easy.

Laurie Harrington: Well, thank you both so much for this interesting conversation about CTE in New Jersey.

One last question I'll ask you guys. Jackie, tell us about your first paid work experience in your life, in your career, and how did the skills that you learned in that job translate into the work you do today?

Jackie Burke: My first job was actually at a Hallmark store, and it was in my town, and I loved it. It was great. I got to work with interesting people, I learned how to interact in a workplace situation, you know, customer service. There were innumerable skills that I learned. I also learned that, uh, people wait until the very last minute to buy Valentine's Day cards. So, you're always going to have a line at the door. And I learned fiscal financial accountability in that job. But it was a great opportunity and I keep a lot of those lessons I keep with me today.

Laurie Harrington: And, Jimmy, I'll ask you the same question. What was your first job and what did you learn through that experience that carries with you today?

Jimmy Green: My first job was working on a landscaping crew based out of a wholesale nursery in San Diego. It was my first job my senior year right before I enrolled in college. And the work it was hot, physical, and long days and one thing that it taught me was that you need to pace yourself, teamwork. And another thing that the owner of the business at the time required some of the staff do is learn about the plants that were sold. So, research at an early age, and after one summer I also learned something about myself that this was not the work for me. And I have a great deal of respect for people who do this work, and I think it's really creative and artistic, but my back just wasn't up to the work, and I think it thanked me later in life. So, that's why I sit at a desk research and look at numbers all day.

Laurie Harrington: I think both of you made that point excellently in this podcast, which is part of CTE and career education is figuring out what you don't want to do and what's not the right path for you. So, it helps you figure out what is the right path.

Jackie Burke: Laurie, what was your job?

Laurie Harrington: My first job was I worked in La Bonbonniere Bakery in Edison, New Jersey. I had to walk there and it started at 6 a.m. And I learned a lot about decorating cookies, but I also learned a lot about just responsibility. I mean, you either had to be there super early in the morning to open the shop or you had to be the last one there to mop the floors at night. So, it taught me a lot about hard work and it taught me a lot about sometimes you have to do what you don't really want to do, but you gotta persevere. But, like you, it taught me a little bit

of financial education because, at first I, as soon as I made the money, I spent the money. And then I eventually learned to save a little, or to plan and budget, so I knew what I could do when I got paid. So, I think that financial aspect was really important for me when I was 16 years old.

That wraps up our conversation on CTE in New Jersey. Thank you, Jimmy Green and Jackie Burke for participating in today's podcast.

Jimmy Green: Thank you for having me. It was really nice to be part of the conversation.

Jackie Burke: Thanks for the opportunity, Laurie. Much appreciated.

Podcast Close (*music playing*): Thank you for joining us on today's episode of *Work Trends RU*, where we explore the issues affecting the future of work, education, and how the workforce can be better supported by both the public and private sectors. Tune in next time as we continue our conversations on the evolving landscape of work and education. (*music ends*)