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2026

College and Career Readiness

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EDITOR'S NOTE

School districts across the country are redefining post–high school readiness. This spotlight highlights how they are elevating **high-quality career and technical education**, awarding academic credit for **real-world internships**, expanding **industry partnerships**, and integrating AI and other **future-ready skills** into coursework. District leaders are working to erase the divide between college prep and career pathways, creating clearer, more inclusive routes to success, and broadening the definition of what it means to be prepared for life after graduation.

Luca D'Urbino for Education Week

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OPINION

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In These Districts, Students Get an English Credit for On-the-Job Internships

By Evie Blad

Nashville , Tenn.—

When a group of Wyoming school districts explored why the students who could benefit the most from internships weren't doing them, they quickly identified a common barrier—and a creative solution.

Embedding with local employers can help disengaged students find a new purpose for learning and identify future jobs in their own communities, the Wyoming leaders said. But struggling students too often passed those opportunities up. The reason? They needed the time to take additional English classes to fulfill the state's graduation requirements.

An industrious team of English teachers, community college professors, and district administrators designed a way for students participating in a work-based learning experience to earn an English credit concurrently by completing a series of professional writing assignments related to their internships. Even better: Students who complete the course also earn an introductory college credit that they can put toward their future degrees.

It's all part of an evolving strategy conceived by four districts clustered in and around Sheridan, Wyo., which have partnered with Sheridan College and local employers to help students identify career pathways early and experience them before they graduate. Two superintendents discussed the collaboration, known as the Northern Wyoming Career Pathways Partnership, at the National Conference on Education, hosted by AASA, the School Superintendents Association, in Nashville on Thursday.

"There are all kinds of reasons students leave our communities after graduation," said Chase Christensen, superintendent of the rural Sheridan County District #3. "The one reason we don't want to see is that they don't see the opportunity to stay."

The districts' work comes as school systems around the country aim to build their relevance for students and families by partnering with local employers to design new student learning experiences, a key focus of the AASA conference.

Kaylee Domzalski/Education Week

Chase Christensen, superintendent of Sheridan County School District #3, presents a panel at the National Conference of Education in Nashville.

Knocking down barriers to career-based learning

In small towns, that work is particularly relevant, Christensen said. Connecting students to local jobs can be a key strategy for economic development, improving graduation rates, and even maintaining school enrollment levels, as more students opt to return to their communities and start families after college or career training, he said.

The three districts in Sheridan County and one in neighboring Johnson County use a multi-phase strategy to introduce students to possible career fields early, explore whether their aptitude aligns with their interests, and engage in job shadowing and internships to get hands-on experiences.

"We need to ask ourselves, 'Why do our kids keep coming back? And more importantly, why don't they?'" said Scott Stults, superintendent of Sheridan County District #2.

Stults' district eliminated valedictorian and salutatorian titles when educators discovered that many high-achieving students bypassed internships they might have otherwise pursued, favoring additional Advanced Placement courses weighted more in calculating GPAs.

For struggling students, they offered additional credit-recovery options and eased GPA requirements that were often barriers for interested students.

The English/language arts credit helps address the needs of students across the academic spectrum by giving them an early start to a college degree. For students interested in the trades, it may incentivize them to pursue a more lucrative associate degree, rather than a professional certificate, Christensen said.

Work for the course, overseen by a Sheridan College professor, includes a writing assignment that stretches students' problem-solving and relationship skills. Students must identify an area for improvement in their internship employers' policies or processes and propose a solution in a written essay that they discuss with their supervisor at an exit interview.

Some employers have actually adopted students' suggestions, which helped them cut costs and improve products, Stults said. In one case, a local rifle manufacturer changed a metal-finishing process after a student shared a skill he'd developed in shop class. Supervisors later offered to pay for the student to complete gunsmith training so he could return as a full-time employee after graduation.

"We tell employers, 'You're going to have

a valuable employee there on day one,'" said Christensen. "'They can think outside the box because they haven't had the lid shut yet.'"

A phased approach to career exploration

The ELA credit, and high school internships, build on a phased approach.

All four districts employ career coaches, who work with students to identify learning experiences and coordinate with local employers to identify new opportunities.

They also take students on field trips and hold career fairs to show the range of jobs at local companies. For example: While Sheridan County doesn't have a big tech employer, a student could become a computer programmer at a nearby hospital.

In 8th or 9th grade, students complete ungraded assessments developed by YouScience, an education company, that identify overlaps in their career-related interests and aptitudes. Those results can help drive conversations with parents and identify needed coursework, Stults said.

If students have a high aptitude in a given career field and no interest, they may benefit from hearing from an adult who does that work. If they have high interest but low aptitude, they may select courses that can help build those necessary skills, leaders said.

Career coaches also share the aggregate results with employers and the local Chamber of Commerce, which may use the data for economic development. If data show that hundreds of high school students have both high aptitude and interest in technology jobs, that might become a selling point for a tech company interested in expanding in the area.

Districts also use the results to sort students into advisories based on aptitude and interest so they can hold regular conversations with like-minded peers about what's next, leaders said.

The approach has been so successful that leaders are searching for ways to evolve and expand it. One possibility: Identifying additional college credits like math and geometry that overlap with students' internships.

"If we don't ensure our students see a future for themselves in the community where they graduated and grew up, of course they are going to leave," Christensen said. ■

Angela Piazza/Dallas Morning News via TNS

Adaora Umeh and daughter Weluchu Umeh, a sophomore, learn about a digitized cadaver used by dental students Makaylen Martinez, center left, and Katie Pham, right, during an open house at a Garland ISD career and technical education center in Garland, Texas. Districts around the country are partnering with colleges and local employers to offer students more learning opportunities connected to future careers.

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Schools Must Prepare for Jobs Of the Future, Superintendents Say

By Evie Blad

Schools must develop new approaches to prepare students for jobs in changing local workforces, superintendents say.

District leaders from around the country will gather this week to compare notes on how to build partnerships with local industries, provide students with experiences linked to future careers, and navigate new developments with artificial intelligence.

It's all part of a growing emphasis on work-based learning and career and technical education that more students are demanding and that can help them finish high school with a professional credential and potential job connections.

Such strategies are a key focus of the annual National Conference on Education, hosted in Nashville by AASA, the School Superintendents Association, from Wednesday to Saturday. The theme of this year's event is "the future is ready," with speakers focused on "embracing innovation and equipping students, staff, and community with the tools and essential skills they need to thrive in a fast-changing world," the organization said in a news release.

The discussions come as public schools seek to prove their value in a world of increasing education options and help students plan earlier for future careers.

"It's really about making sure that all students have a pathway," said Kristine Gilmore, AASA's chief leadership and learning officer and a former superintendent. "It's not only about learning the best research, but seeing districts that put it into practice."

Among the sessions:

- Leaders of the Sheridan, Wyo., district teamed up with a coalition of districts and a community college to allow students to earn English/language arts credits for work-based learning experiences. The credit allows a wider variety of students to participate, helping schools reach disengaged students who may benefit from hands-on learning, leaders said.
- Superintendents from Pennsylvania and California integrated financial literacy, entrepreneurship, and "life skills" into their schools' curricula.
- Leaders from the Delavan-Darien School District in Delavan, Wisc., partnered with local employers to give students out-of-school experiences. For example, students interested in the trades partnered with local contractors to remodel a farm house.
- Administrators from Talladega County, Ala., schools created a career pathway for students interested in cybersecurity careers.
- Superintendents will share how to build career-connected learning programs in rural schools.

Superintendents collaborate to rethink career readiness

College- and career-ready efforts not only prepare students for the future, they also help them remain engaged in the present, said Nick Polyak, the superintendent of the 3,500-student Leyden Community High School District north of Chicago, where students select coursework that aligns with a menu of possible career pathways and earn professional credentials before graduation.

"We all know that for kids, they need that hook to what they are passionate about," he said.

Polyak serves on a cohort of superintendents that has met for months to develop action plans, self-assessments, and recommendations for districts interested in helping students connect their education to future careers, and nurturing traits like resilience and relationship skills. That cohort is part of AASA's Public Education Promise, an initiative that also includes separate working groups focused on student-centered learning, business and community partnerships, measuring success, and recruiting and retaining employees.

Polyak seeks to offer districts lessons that are flexible enough to apply to their own local contexts. In his district, students show great interest in skilled manufacturing jobs that are plentiful in the region, but other communities will need plans to connect to their own local industries and identify needs, he said.

"We live in one of the most advanced manufacturing hubs in the country, and kids can

go earn six figures if they want right out of high school," Polyak said. "The program we are running here makes perfect sense, but it might not make sense in the next district over."

He will co-lead a conference session Thursday on how superintendents can navigate challenges and steer their districts through change.

Working groups from the Public Education Promise have already started sharing resources with AASA members, Gilmore said, and more will come after the conference.

"We hope that people leave with pieces they can put into action immediately," Gilmore said. "It's really about identifying who is doing great work and making sure we can scale that work across the country." ■

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Tomball ISD Superintendent Dr. Martha Salazar-Zamora, center left, walks with colleagues in Tomball, Texas.

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A Superintendent's Vision Turned An Oil Site Into a Career Launchpad

By Arianna Prothero

Tomball, Texas—

Superintendent Martha Salazar-Zamora's unlikely vision for a career and technical education utopia here emerged back in 2021, as she toured the site of a bankrupt oil field-services company.

A wall of windows in the former executive conference room and a private patio yielded a perfect view of the company's one-time fiefdom: 70 acres and 11 buildings.

Karla Sandoval, the Tomball Independent School District's head of career and technical education, who joined her boss and a real estate agent on the visit, recalled Salazar-Zamora explaining her plan to buy the property, and move some personnel into its deserted office buildings.

Then the superintendent gestured to a sea of abandoned warehouses and outbuildings.

"That is CTE," Sandoval recalled Salazar-Zamora saying to her. "Are you ready for the challenge?"

Sandoval laughed as she replayed the exchange more than four years later.

"I was like 'yes,'" she said. "And in my head, I'm going, 'Oh my gosh, I hope I can deliver.'"

And deliver, Salazar-Zamora and her team have done.

From warehouses to classrooms

On an early December day this school year, inside a warehouse building converted into classrooms, graphic design students in the fabrication lab press "Hope Squad" decals onto shirts for a districtwide mental health initiative.

In another classroom, students in the aviation program practice takeoffs and landings on desktop plane simulators.

Inside former office buildings, students in the legal-studies pathway enact a mock trial in a room refurbished as a courtroom. A couple of doors down, students in the district's law-enforcement pathway practice pulling over a driver in a 360-degree virtual simulation.

On the back of the property in what was once a shell of a building without walls, now stands a 45,000-square-foot agricultural arena that hosts robotics competitions and livestock shows.

This is how a handful of the district's 28 career pathways make use of a property that many would have written off as a sad casualty of the pandemic four years ago.

"Purchasing the oil and gas company site, which is now the Tomball Innovation Center, it was a dream in my head that grew and grew and grew," said Salazar-Zamora, known informally in this district of more than 23,000 students as Dr. Z.

That purchase has been instrumental in the expansion of Tomball's CTE program.

CTE enrollment has risen from 6,520 students in the 2019-20 school year to 9,415 this year, fueled in part by rising enrollment districtwide.

Last year, Tomball students earned a total of 1,250 industry-based certifications, up from 572 in the 2020-21 school year. The number of students participating in work-based learning has nearly tripled since the 2020-21 school year, to 318 this year.

The district has added two CTE coordinators, one of whom is dedicated to agriculture, two CTE counselors, and a CTE work-based learning specialist since the 2020-21 school year. That brought Tomball's total team of CTE educators to 115 teachers and administrators.

Salazar-Zamora is the type of leader higher-flyers are drawn to work for

Originally, Tomball and the company that once owned the property, BJ Services, planned to create an academy of energy and international business. But then the pandemic hit, delivering an economic blow that BJ Services couldn't survive and scuttling the district's hopes for the specialized academy.

From the ashes of that plan rose another, when Salazar-Zamora happened to drive by the empty building one day and see a for sale sign. Tomball bought the land for $39.5 million in 2021, a fraction of the $115 million the property was valued at, according to district officials.

The site now houses district administrative offices, CTE classrooms, and Tomball Star Academy, the district's early-college high school. Because the site was bought in bankruptcy, the district got everything on the property, from coffee cups to large, built-in cranes.

Michael Pratt, a member of the district's board of trustees, recalled his first reaction to Salazar-Zamora's pitch to purchase the oil company's property: "OK, that's big. It's a great deal, but tell me the vision."

Salazar-Zamora had a strong track record when it came to delivering on her plans, Pratt said. Both she and several board members—including Pratt—had relatively long tenures in their positions in the district, which had

allowed them to forge a trusting relationship and shared vision for CTE, he said.

Pratt knew Salazar-Zamora could leverage the property to meet her vision in large part because she has always been a magnet for talent.

"She leads with her heart. Somebody who handles her business and leads with her heart is rare," Pratt said. That's typically the type of person hard-working and visionary people are drawn to work for, he added.

On a recent December morning, Salazar-Zamora stood inside a cavernous warehouse on the Tomball Innovation Center site, surveying the space that holds a crane and two small, gutted planes propped up on wood pallets and jacks.

She was dressed in a festive red skirt with matching purse, necklace, and Christmas bauble earrings. Her high-heeled, snake-skin boots—also bright red—lent a few additional inches to her five foot, nine inch frame. The outfit made her both imposing and cheery, a pairing of traits that likely helps Salazar-Zamora get a lot of what she wants for her district.

With a sweep of her hand, Salazar-Zamora described how the hanger would soon be filled with students working on planes as part of the district's new aviation-maintenance program.

Not everyone in the community has been thrilled with the district's plans for the purchase. Some parents questioned whether the old industrial site was safe for students, according to local news stories at the time. The district worked with environmental experts to ensure the site's safety.

Tomball ISD could not have afforded the purchase if it hadn't been for the bankruptcy sale, Salazar-Zamora conceded. Which is why she was so keen to jump at the rare opportunity.

"There are moments in a career when you know in your heart this is right," Salazar-Zamora said. "I call this a legacy purchase."

The move exemplifies her approach to leadership. She thinks big, colleagues say, and she doesn't take no for an answer.

Salazar-Zamora's leadership was shaped by childhood challenges

Those are attributes forged during Salazar-Zamora's childhood as she navigated the world as a child with profound hearing loss. Her mother insisted she never let her disability stop her.

"I was raised with a very simple mantra, and that was to never let my disability be an inability," said Salazar-Zamora, who had an operation at age 17 to repair her hearing.

Her mother "reminded me [of that] when I thought something was too hard. When I didn't think I could be in band," said Salazar-Zamora, 59. "And then I fought hard and made it into the band."

Salazar-Zamora went on to start her education career as a teacher and speech and language pathologist.

Her upbringing also influenced her focus on CTE. Salazar-Zamora was raised in a poor, rural community, she said, where trade skills were as much a pathway to the American dream as a college degree. Since then, three decades in education has crystalized Salazar-Zamora's belief that CTE is necessary to help every child to find a sense of belonging and motivation.

It was that belief that led Salazar-Zamora to invest so heavily in Tomball's CTE facilities, after being promoted from the district's chief academic officer to its superintendent in 2017.

Top-notch facilities can help recruit top-notch CTE teachers

The land purchase has helped Tomball tackle some of the biggest challenges facing CTE programs nationwide.

According to an October EdWeek Research Center survey of educators whose jobs are connected to CTE, a lack of facilities, funding, and teachers are among the most-cited factors holding their programs back.

"I hear principals and district administrators say over and over again that 'we would love to offer this program. We just don't have the space,'" said Walter Ecton, an assistant professor at the Center for the Study of Higher and Post-Secondary Education at the University of Michigan.

And when it comes to hiring teachers, schools end up in an often unwinnable competition with the private sector. Many of the industries that fall under the CTE umbrella pay their employees more than public schools can, Ecton said.

(Ecton spoke with Education Week as a general expert on CTE—he is not familiar with Tomball ISD's program specifically.)

Even after successfully hiring teachers, districts struggle to retain them, said Mark Bosher, the senior director of technical assistance and training for the Career and Technical Association of Texas.

Teachers coming straight from industry face a steep learning curve in mastering the instructional side of the job.

Tomball ISD's investments in professional development for its CTE teachers have been important to retention and program growth, said Bosher whose organization has recognized the district for its CTE work.

"Too many times we hire teachers and tell them, here's your chalk, I'll see you in December," Bosher said. "That's not what Tomball ISD does. They are constantly training their [teachers] and helping them to grow as professionals. That leadership comes from the top. A superintendent has to be invested in that or it doesn't happen."

The Tomball Innovation Center itself is also a powerful draw for new teachers, said Lee Wright, the assistant superintendent of human talent for the district.

"Nobody else has the headquarters of a former oil company," said Wright. "Just having this site, we can recruit—and not just recruit but retain."

That was certainly the case with aviation instructor Justin Morrison, who started teaching at the district three years ago.

Shortly before winter break, Morrison watched over a pair of students' shoulders as they practiced landing in a large flight simulator that looks like a futuristic stagecoach. The contraption, manufactured by Redbird Flight Simulators—an industry leader—is made up of a white metal box, its interior is outfitted with two seats, an instrument panel, and several screens positioned to look like cockpit windows. Its body rests on a red metal base that mimics the movements of a plane.

The screens showed mountain peaks in the distance poking out of cloud tops as the students—one acting as a pilot and the other as the co-pilot—descended into the clouds, losing all visibility. With a beeping sound, the red base shook, simulating light turbulence.

Eventually, a runway lined with lights materialized on the screen. "You just have to work on the outer line ..." Morrison said as the plane touched down, "and staying on the runway," he added, as the students veered off it into the grass.

"And that's why we have simulators," Morrison concluded.

Morrison moved from Oklahoma, and he said he turned down other job offers to take the position in Tomball.

Tomball, he said, "really wanted to invest in this program, whereas other districts didn't have that same vision, didn't seem like they had that passion for growing this aviation pathway. And that drew me in immediately."

Tomball is located in a rapidly expanding community outside Houston, near two major commercial airports and several smaller ones, so there is a demand for pilots and mechan-

ics, said Salazar-Zamora. She meets quarterly with community leaders, including the mayor, the city manager, and the local chamber of commerce to keep a finger on the pulse of the area's employment needs.

It's important for CTE programs to offer pathways that have clear connections to careers after high school, said the University of Michigan's Ecton. High-quality programs also have strong relationships with local industry and employers, he said, and evolve to stay aligned with workforce needs as the economy changes.

CTE facilities can double as a revenue source for cash-strapped districts

While research on the long-term benefits of CTE programs on students' future earnings is still emerging, CTE programs can help keep students engaged in their schooling, Ecton said.

"Students do better when they know what outcome they're working toward," he said. "I think especially for students who are struggling to figure out where they see themselves in the future, CTE can be really useful."

For Kaighly Davis, a junior in Tomball ISD, enrolling in the legal-studies pathway has eased her stress over her postsecondary plans.

The future beyond high school can be overwhelming. Getting to experiment and learn about potential careers in high school makes her next step feel less inscrutable, she said.

"In this program, you're able to figure out if this is really what you want to do for the rest of your life, because that's something that's very scary for high schoolers," said Kaighly, who plans to become a lawyer.

The Tomball Innovation Center has also become a source of income for the district. The district rents out the agriculture arena and the former executive conference room for events.

Law-enforcement agencies have paid to train with the district's virtual simulators used by students in that pathway. And an energy-technology company, Backer Hughes, now leases office space in one of the buildings, which generates around $1.3 million a year for Tomball ISD.

The district still relies on federal dollars from the Carl D. Perkins Career and Technical Education grant program and its own general fund to support CTE, but those additional dollars help.

Salazar-Zamora acknowledges that most districts won't have the opportunity to purchase an oil-services company property in bankruptcy.

But she doesn't see that as the takeaway here.

Instead, Salazar-Zamora urges district leaders in these tight budgetary times to think like entrepreneurs.

Invest in your students, your people, and your community relationships, and the work will pay dividends, Salazar-Zamora said.

"We want for every child to find a place to belong, a passion to pursue, and a love for learning that serves them well beyond the years they are with us," she said. "No superintendent could ever accomplish this kind of work without an incredible team. And my school board has been supportive of any and every crazy idea I've ever come up with, which yes, did include, 'I really think we need to buy an oil and gas company.'" ■

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One Superintendent on How CTE Prepares Students For Tomorrow's Jobs

By Arianna Prothero

Tomball , Texas—

The Tomball Independent school district in Texas has invested significantly in its career and technical education programming in recent years.

This included buying the property of a bankrupt oil-services company and building an expansive career-and-technical campus on it.

With that growth has come challenges, said the district's superintendent, Martha Salazar-Zamora, who has been recognized as an EdWeek 2026 Leader To Learn From.

Salazar-Zamora spoke with Education Week about common obstacles schools face in building strong CTE programs and how she has approached them.

This interview has been edited for length and clarity.

Danielle Villasana for Education Week

Martha Salazar-Zamora, the superintendent of Texas' Tomball Independent School District, purchased an abandoned industrial site that now houses her district's expansive career-and-technical education program.

What has been the main challenge to building out your district's CTE program?

The biggest challenge has been deciding which CTE pathways we want to create or make more robust. There are so many avenues and opportunities and interests, and we really pride ourselves as a district, and myself as superintendent, in being able to provide A to Z choice and opportunities for Texas public schoolchildren. You [can] leave us to become a commercial pilot or you can leave us and shortly after sit for a master electrician test.

One of the biggest challenges is being forward thinking and analyzing what we're seeing, what we're hearing through technology, through AI, through our local economic development, the state economic development, I would even say national, and decide what opportunities do we want to create for children that will be best for them in their future. Because we are educating children and preparing them for positions that may not exist today.

Our next opportunity for secondary schools will be cybersecurity—this will be a main focus.

How have you solidified community partnerships to support this work?

I have quarterly meetings with our community leaders: the mayor, the city manager, our chamber of commerce. We are a team. It's really about ensuring that we collaborate, whether it's [the local community college system] Lone Star College, or the [local] hospitals.

You purchased 70 acres and 11 buildings for $39.5 million to build the CTE campus. How do you maintain community buy-in for CTE investments on that scale?

Ensuring that we were involving everybody in our story—I call it the Tomball story—and what this entire CTE complex means to the district and the community. [We create] opportunities for [people] to come in and view it. I've held my state of the district in a warehouse [on the CTE campus]. We've provided tours [in] golf carts so that they could see their [public] dollars at work.

CTE is sometimes viewed as less rigorous than a college-preparatory focus. Have you encountered that perception?

The pendulum has gone from one side to the other in education. I've been doing this long enough where we've seen, "yes, CTE is the way to go," and then we've seen a time where people felt like it may be inferior to a focus on [a four-year university] education.

I've always felt like CTE is valuable because when any student leaves with an additional skill and can go on and become a productive citizen, then we've done something good for them and perhaps changed the [economic] trajectory of their families.

I think now people truly see the beauty of CTE and the fact that pursuing a trade can be equivalent to getting a four-year degree, depending on what you major in.

How have you approached the challenge of people perceiving CTE as lesser?

We've done a lot of CTE education. We

have a parent university where we will highlight CTE programs and bring in the community to feature and highlight and share the great things that are happening [through the district's CTE offerings].

We also bring in industry leaders that come and talk to our students, that talk to our parents. ... We want to make sure that people understand that CTE is just the beginning. [Students'] future can only continue to grow based on the strong skill set that they leave us with. We want the community to understand and see the value of all the different opportunities that their students are getting. ■

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What the Best Career and Technical Programs Have in Common

By Arianna Prothero

What are the essential elements of a high-quality career and technical education program?

A growing number educators are asking that question as the demand for CTE courses grows, fueled in large part by students and parents questioning the return on investment of a college education and students wanting to develop job-related skills that they can put to work right out of high school or college.

Education Week spoke with Walter Ecton, an assistant professor at the Center for the Study of Higher and Postsecondary Education at the University of Michigan and an expert on CTE, about what it takes to build and maintain a strong career and technical education program.

This conversation has been edited for length and clarity.

Devin Anderson-Torrez/mlive.com via TNS

Strong career and technical education programs offer students experiences to tackle and solve real world problems, experts say. Students participate in disaster simulations at Van Buren Tech in Lawrence, Mich.

First, what does the research show about the long-term benefits of CTE?

We have strong evidence at this point that high-quality CTE leads to stronger earnings and employment outcomes for students at least in the short to medium range. We have evidence all the way up through around 10 years or so after high school graduation. CTE students have higher earnings than we would otherwise expect them to have.

There is less evidence in the United States context on longer-term outcomes once you get past around 10 years. There's a couple of reasons for that: One is just there were not a lot of people researching CTE in the late 90s and early 2000s.

What are the critical components of a high-quality CTE program?

The research is still a little out about this, but here are a few things I would say.

The CTE pathways that have the strongest outcomes are ones where there's a very clear pathway for students after their time in a high school CTE program. One example would be health care. There's very often an explicit next step program at a local community or technical college that might be geared toward nursing or other health care professions.

The strongest CTE programs are also marrying both technical skills together with academic skills. Your highest-quality CTE programs are really engaged in rigorous reading and writing and math, and students are getting robust training in those critical skills, which is really important, especially if later in life they change career paths. Something I get concerned about are CTE programs that are only preparing students to do one specific job, because what if that job goes away in five or 10 years?

A third thing is strong CTE programs have relationships with local employers. One reason is that it helps teachers to stay more up to date in what current practices in the field are. Also, having buy-in and relationships with local employers can help to create a pipeline for students to [apprenticeships and] eventual jobs.

CTE when done well has a lot to recommend itself in terms of just the learning style. It's more problem-solving-based. It's more hands-on. There's more of a connection to the real world.

> **"We have strong evidence at this point that high-quality CTE leads to stronger earnings and employment outcomes for students."**
>
> **WALTER ECTON**
> Assistant professor,
> Center for the Study of Higher and Postsecondary Education at the University of Michigan

How is technology changing what skills students need?

Increasingly with today's economy and with this rapid speed of technological change students are going to need to go back to some sort of post-secondary education to get new credentials. That might not necessarily be a bachelor's degree, it might be an associate's, or it might be a certificate or a diploma at a technical college or community college.

Why do schools need to pay close attention to economic trends?

Another indicator of a high-quality CTE program is that it is preparing students for jobs that are both high wage but also in high demand.

You'll see sometimes a school offering a CTE program that they've been offering for decades because it's popular and because the teacher has been teaching the same subject for a long time. But what if that's no longer an

industry that's in demand? That can be frustrating for students if they spend three or four years taking classes and certification exams, and when it comes time to graduate, they realize, "oh, well, there's not actually jobs in my area in this field, or the jobs in this area don't pay anywhere near what I was expecting them to."

Cosmetology is still one of the most popular programs of study around the country. But the jobs that cosmetology programs lead to, largely, pay quite poorly. In some areas, there's an oversupply of people who are credentialed in those areas, which makes it really hard for students to set up a sustainable career for themselves.

The caveat is if there are students who are just loving their cosmetology class and it's making them love school and be engaged in their education, then there still might be real benefits to that. But I do think that it's incumbent upon schools and districts to do the best they can to create programs that really are going to set students up for what's next.

Does CTE have educational value beyond students' future employment earnings?

Absolutely. You could look at CTE as a workforce development tool that's matching students together with employers, and that's important. You can also definitely see CTE as an engagement tool.

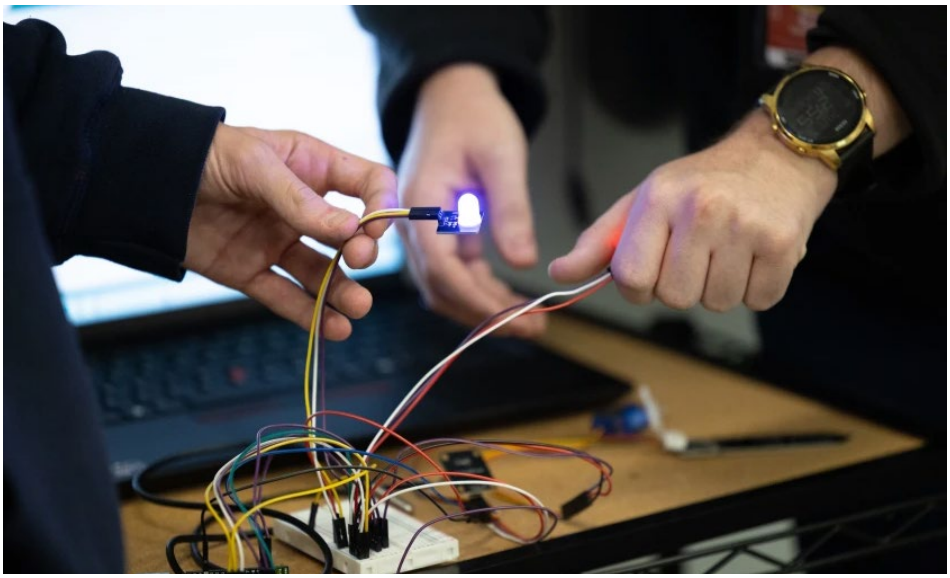
Think about a student who, for whatever reason, doesn't love school, doesn't love being in a traditional classroom and sitting at a desk and reading a textbook and filling out worksheets. CTE can be a much more engaging form of education for those students.

One of the most compelling pieces of evidence that I've seen in favor of CTE is that CTE students tend to be less likely to be chronically absent. In my mind, that's a pretty good indicator of students who are more engaged. ■

Published November 17, 2025

Businesses Want Employees With AI Skills. Are K-12 CTE Programs Keeping Up?

By Lauraine Langreo



Thomas Hammond for Education Week

Students do presentations about their AI-powered projects that are designed to help boost agricultural production during Calla Bartschi's Introduction to AI class at Riverside High School in Greer, S.C. South Carolina is emphasizing the development of AI skills that are relevant for the careers students want to pursue in the future.

The students in Calla Bartschi's Introduction to AI class at Riverside High School in Greer, S.C., are gearing up to present a project showing how artificial intelligence technologies can be used in the agriculture industry.

The students walk around the classroom to collect soil data using Arduino Uno microcontrollers and sensors, which are basically small computers. Later, they'll analyze the data and create a prototype of an automated system that would help stabilize farm conditions amid environmental challenges and improve crop growth.

Earlier in the school year, the students learned about how AI is being used in the entertainment and health care industries. And later in the semester, they'll learn about how AI is used in manufacturing and sports analytics.

It's been "really eye-opening for the students to see something that they interact with a lot but maybe didn't realize how much AI already existed [in it]," said Bartschi, whose school is part of the Greenville County school district.

The class is a first-year pilot of a new K-12 career and technical education pathway focused on AI that South Carolina is developing. It's an example of how schools and districts are starting to incorporate the use of AI into CTE programs to prepare kids to think about the technology in the context of their future careers.

Nearly one-third of CTE educators say they expect their district or school to introduce CTE offerings in the fields of digital technology, information technology, AI, and cybersecurity, according to a nationally representative survey of 472 CTE teachers and administrators conducted by the EdWeek Research Center in the fall.

Artificial intelligence and its use are not new. A lot of the tools we interact with daily—navigation apps, facial recognition, social media, voice assistants, search engines, and smartwatches—run on AI. And many industries are already using AI one way or another.

The entrance of the generative AI tool ChatGPT in 2022 reignited discussions about how the fast-evolving technology could reshape the way we work and how students learn.

Educators have been considering what and how much of a role AI should play in student learning, especially as AI advocates say today's students need to learn how to use it effectively to be successful in future jobs.

How South Carolina is preparing AI-ready students

The AI CTE pathway that South Carolina started developing in 2022 in partnership with the Southern Regional Education Board prepares students for the workforce by teaching them about industry-specific use cases and providing them with AI skills, including how to train AI, said Ivy Coburn, the division director of education and workforce for the SREB. The SREB is a nonprofit organization that works to improve education in its 16 member states.

"We're not going to just, overnight, completely change a CTE course or program to fully be all AI," Coburn said. "What we're doing is building units around the use case so that students are learning about AI while they're understanding how it's used in that industry."

The pathway will have four units that students are expected to take over four years. The first unit is the introduction, where students explore basic AI concepts while building and designing AI solutions. It culminates with students taking a test to earn a Microsoft Azure AI Fundamentals certification.

The curriculum development team is still in the process of developing the rest of the units, Coburn said, but the idea is for students to dive deeper into AI applications for years 2 and 3, and then year 4 will be for an internship and a capstone research project.

"Initially, students expected the course to be, 'how do I use AI and how do I take advantage of ChatGPT?'" Bartschi said. "It's really been more about, what more is there to AI and then eventually how do we build it? How do we train it? What does it do well? What does it do poorly?

"They've really enjoyed it and really engaged with all the different things we've been going through," she added.

CTE programs should focus on skills and

not technology when thinking about how to incorporate AI into their curricula, said Coburn. Those skills include: adaptability, collaboration, communication, creativity, critical thinking, leadership, and problem-solving.

Core academics and career-field knowledge will also continue to be important, she added.

"Trying to make sure that the AI solution matches the program and the learning outcomes of that program would be critical," Coburn said.

Incorporating AI in CTE programs is still in early stages

A majority of schools and districts, however, are still in the early stages of thinking about how AI should be integrated into CTE programs, according to experts.

"We're starting to jot down all the spaces where we see AI being used across the CTE programs," said Angela Mike, the executive director of CTE for the Pittsburgh district.

Much of the equipment available in Pittsburgh's CTE programs already has AI components in it, Mike said. So she and her staff are examining how CTE teachers are already using those tools and how they can add AI-related lessons to their curricula.

In some cases, individual teachers are starting to incorporate AI tools and discussions about them into their lesson plans.

In Illinois' Township High School District 214 outside Chicago, computer science teacher Bob Brown has started teaching students how to prompt AI in a way that helps them deepen their understanding of a complex topic or brainstorm solutions to a coding problem, instead of just prompting an AI tool to do the work for them.

For instance, students are learning how to program buttons in a mobile app. They can use AI to ask for explanations, such as: How do I get an integer from a text field? Then, they follow the steps it tells them, Brown said.

"That's just as valid as hearing a teacher mention it. That's just as valid as watching a YouTube video," he said.

Some teachers are hearing from their industry partners about how AI is being used in the real world and what skills they want from students moving into those industries.

For instance, Erika Shiota-Montandon, the automation/robotics teacher for the Greenville district in South Carolina, shared that a student mentor who works at a nearby car manufacturing plant has talked to her students about the AI-powered robots that work alongside people and assist with production and logistics.

Other industry partners that might not be using AI yet are hoping to recruit graduates who have developed AI skills in school.

Jamie Whitlock, Greenville's CTE academic specialist, said some industry partners are "looking at the kids and younger people to be able to show them and tell them how to leverage [AI technology]."

One big challenge, Mike, the CTE director for the Pittsburgh district, said, is that AI technology is changing so quickly and schools are struggling to catch up.

Many districts, like Pittsburgh, are still in the process of creating AI-related policies or guidelines. An EdWeek Research Center survey conducted in the fall found that 27% of teachers, principals, and district leaders said their school/district doesn't have a policy on the use of generative AI.

"The jobs are changing so quickly that everybody has to get their head wrapped around it," Mike said. "We have to be willing to shift with it, so that we're preparing our students, so that they can move on into the jobs of the future that aren't even here yet." ■

Additional Resource
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Published December 18, 2025

Do Schools Put College Prep and CTE On Equal Footing? We Asked Educators

By Alyson Klein

Many high schools for years have maintained two separate tracks for students: the college-bound path for students who took traditional academic classes and the "vo-tech" path for kids who spent at least part of their day training for a career—in a field like culinary arts, cosmetology, or manufacturing—that they could transition to soon after graduation.

But things are changing. These days, many schools strive to blur the line between college preparatory coursework and the type of workforce-based, job-connected learning that's typically been the hallmark of career and technical education.

But how widespread is this relatively new practice?

Just over 1 in 6 educators with some connection to CTE—17%—report that CTE and college-prep are so seamlessly combined that it's hard to tell which gets more attention and resources in their districts, according to an EdWeek Research Center survey conducted this fall.

And a little more than a third of CTE-connected educators—36%—say their schools devote about equal resources and focus to CTE and college prep, according to the survey.

Still, roughly the same percentage—35%—say that college prep receives more resources and emphasis than CTE, the survey found. Meanwhile, 12% report that CTE gets more focus and resources than college prep.

Amy Loyd, the chief executive officer of All4Ed, a nonprofit focused on educational equity and preparing students for life after high school, said it's important for people not to think of CTE and college prep as separate tracks.

"CTE is college preparation," Loyd said. "CTE is some of the best pedagogy for student learning, not just acquisition of knowledge, but application of knowledge and practice. It leads to stronger outcomes in high school and persistence and completion in post-secondary coursework."

And she said that these courses shouldn't be seen as easy A's, either.

"There's a core of rigorous academics" in CTE, Loyd added.

Some educators who took the survey confirmed that CTE is put on equal footing with college prep in their districts.

"Our career and technical education center is excellent," said one survey participant in response to a question asking for additional insights. "Students are encouraged to consider CTE as a viable alternative to college."

Others wished for stronger connections with postsecondary institutions so that students could get college credit for their CTE coursework.

"Our CTE is very valuable to all of our students," another survey participant wrote. "I believe local colleges and outside colleges should work together and accept students from CTE programs without adding more courses in order to be accepted into their college or university."

College-prep focus is stronger in suburbia

Educators working in rural districts are more likely to say their districts steer more resources and put greater focus on CTE, compared to their urban and suburban counterparts.

Fifteen percent of educators working in rural districts said that CTE gets more focus and resources, compared with 10% of urban educators and 7% of suburban educators.

On the flip side, more than half of suburban educators surveyed—57%—say college prep gets a bigger spotlight and more resource than CTE. That's compared with nearly a quarter of rural educators and more than a third of urban educators.

Loyd said she doesn't believe rural students are necessarily less interested in college than suburban and urban kids, but their communities might lack nearby access to colleges and universities.

Jaycie Homer, a middle school CTE teacher in a rural New Mexico district, said she tries to talk to her students about a range of careers, including some that require postsecondary training.

"They kind of have tunnel vision," Homer said. Many of the students' parents do physical labor in the oil and gas industries and "they think that's the only industry that there is, and it's not. I want them to see you don't have to go out and work on a rig. You could sit in an office and do [work on] AI or technology, instead of having to do hard, physical manual labor."

The EdWeek Research Center survey of 472 school and district leaders and teachers whose jobs include at least some work in CTE was conducted from Sept. 18 through Oct. 27. ■

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College for Students With Intellectual Disabilities Faces an Uncertain Future

Proposed federal funding changes threaten the growth of inclusive postsecondary programs

By Elizabeth Heubeck

One evening this May, about a dozen young adults and their families gathered with faculty of TerpsEXCEED, an inclusive two-year post-secondary education program at the University of Maryland for students with intellectual disabilities.

They celebrated the students who had just completed the program—which meant having to navigate situations like living in dorm rooms, finding lecture halls, engaging in career center resources, just as any typical college student would—and welcomed five additional young people who had been accepted into the program for this coming fall.

But amid the overall celebratory mood of the event, undertones of uncertainty hung in the air over how potential pending federal budget cuts might affect access to higher education programs for students with intellectual disabilities.

One parent openly lamented the possibility that she might not be able to cover the costs of the TerpsEXCEED program for her child, who'd been accepted as an incoming freshman for the 2025-26 academic year, if potential federal cuts result in a "trickle-down" effect on support offered by the Maryland State Department of Education's Division of Rehabilitation Services, DORS, said TerpsEXCEED director Amy Dwyre D'Agati.

"It would be devastating if they suddenly cut some of that funding and DORS said they could no longer pay that [tuition, room and board]," said D'Agati.

Because attending college historically was not an option for this population, many families whose children have an intellectual disability haven't opened a college savings plan for them and, therefore, may not be prepared to pay for higher education, D'Agati said. To date, DORS has financially supported eligible TerpsEXCEED students with these costs.

Kimberlee Schultz, DORS spokesperson, said any risks to future funding from the state are unknown until the U.S. Department of Education's budget—which includes the Rehabilitation Services Administration, which oversees grant programs that help individuals with disabilities—is finalized.

Feldy Suwito, Image of Life Photography

Students in the TerpsEXCEED program celebrate in their caps and gowns with a photo on McKeldin Mall at the University of Maryland in College Park. Inclusive postsecondary programs offer education and opportunities for students with intellectual disabilities, but uncertainties around federal funding threaten their growth.

What's more, D'Agati had hoped by the time of the end-of-year celebration to have written a grant proposal that, if accepted, would allow for the program's expansion to additional colleges and universities across Maryland. But those plans are on hold due to uncertainty over the status of the federal grant program that supports the creation and growth of these inclusive postsecondary programs.

"Everybody just waits on pins and needles," said D'Agati, referring to the request for proposals that would open up applications for Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID) grants. "That would be a huge hit if the RFP didn't come out."

Inclusive post-secondary programs reach only a fraction of eligible students

TerpsEXCEED, like other inclusive higher education programs around the country, captures only a fraction of the nation's more than 420,000 school-age students who have intellectual disabilities—many of whom attend public schools from kindergarten through high school alongside their typically developing peers.

But only about 2% of these students will attend college after high school, according to Think College, a national center dedicated to improving access to higher education for students with intellectual disabilities based at University of Massachusetts Boston's Institute for Community Inclusion.

Even when inclusive programs like TerpsEXCEED do exist, they generally only enroll a small percentage of qualified candidates, due to staffing and budget constraints.

"Every year, we get 30-plus applicants, and we can accept only enough students to replace our current graduating class of six or seven," said D'Agati, one of just three University of Maryland staff members assigned to operate the program.

Since 2009 when Think College began tracking the growth of inclusive higher education programs, they have been steadily rising nationwide—from 149 to 363 this year.

This growth coincides with the advent in 2008 of the U.S. Department of Education's TPSID grants, which launched in 2010 and are designed to be renewed every five years.

President Donald Trump's budget proposal for fiscal year 2026, which has to be approved by Congress, would continue to fund the TPSID grant at $13.8 million. But the administration's general sweeping funding cuts have left advocates on edge.

The request for proposals for this year's TPSID grants, normally released by the Office of Postsecondary Education by the end of spring, still aren't out, D'Agati said. The Education Department did not respond to a request for comment.

During the 2023-24 academic year, TPSID grants supported 551 students in 41 inclusive programs at 39 college and university campuses in 16 states, representing about one-third of the nation's post-secondary education programs for students with intellectual disabilities, according to Think College.

Disability rights advocates also fear that the Trump administration's proposed budget changes could adversely affect funding of for Parent Training and Information Centers, or PTIs, which help families of students with intellectual disabilities navigate post-high school education options like TerpsEXCEED.

While the budget proposal doesn't change the amount of money allocated to the Individuals with Disabilities Education Act, which supports special education services, it would consolidate several grant programs under IDEA—including the $38.6 million PTI grants—and distribute those funds to states.

Advocates are worried that if this change goes into effect, some states will divert that money to school choice programs instead of funding PTIs, said Liz Zogby, director of the special education policy and advocacy project of the Maryland Down Syndrome Advocacy Coalition. She's also concerned that there would be no way to fund a national PTI to support the state or regional organizations.

Any potential slowdown in the growth of inclusive higher education programs or the ability of some students to participate due to lack of funding spells bad news both for prospective students with intellectual disabilities, as they allow them to become more independent and have more employment prospects, and for broader society, say advocates.

"When we are able to include individuals with disabilities into our wider communities, that's a benefit to all of us," said Zogby, parent to a 14-year-old daughter with Down syndrome, whom she refers to as a "natural performer" involved in a local improv group. "There's so much potential that she has to share with the world, and whether the world will be able to take advantage of that—that is under threat."

State support is growing

Immersive higher education programs like TerpsEXCEED help students with intellectual disabilities develop their potential, just like any college student. TerpsEXCEED students can live on campus and have access to courses—both general college courses and those specific to the TerpsEXCEED program—student organizations, career development activities, work experiences, internships, paid jobs, and additional support from staff and trained student mentors.

"They are typical students. They get the student tickets to the games. They can participate in recreational sports, which they do, often with mentors. They work on campus," D'Agati said.

Many states have begun to recognize the benefits of these programs. This May, Maryland Gov. Wes Moore signed into law a bill to add $350,000 annually to the state budget to support the TerpsEXCEED program.

"We're seeing a significant amount of state investment, both in program development and providing resources to not just plan the development and implementation of higher ed. programs for people with intellectual disability, but also create access to existing scholarship funds that, based on the way they were initially developed, might unintentionally exclude a college student with an intellectual disability," said Meg Grigal, director of Think College and a senior research fellow at the Institute for Community Inclusion at University of Massachusetts, Boston.

"College actually helps people [with intellectual disabilities] get better jobs and have better adult lives, and that's catching on," she said.

Think College has been deliberate about spreading awareness of these options. A few years ago, it launched a public awareness campaign called Think Higher. Central to the campaign is a four-minute video featuring students with intellectual disabilities sharing what they personally have gotten out of attending inclusive college programs.

The Think College website also tracks information related to inclusive higher education programs by state. K-12 educators can use the resource to find state-specific details about programs, related legislation, and even contact information.

"If there's only one or two inclusive post-secondary education programs in your state, it's less likely the [K-12] educators in that state are aware of them," Grigal said.

Families might not be aware, either.

And while options are increasing, the number of students eligible far exceed programs available.

"In 2004, there were only about 25 [immersive higher education] programs that we could identify. Now we have 363," Grigal said. "But there's over 5,000 colleges and universities in the United States, so even 363 is still less than 10% of the possible options."

Students with individual disabilities have been getting services their whole lives through the K-12 school system, said advocate and parent Zogby. But when they turn 21, those services are no longer guaranteed—and the uncertainty around the availability of continued education opportunities puts their future in flux.

"Now they're literally coming to a cliff where there may or may not be additional supports and services for them," Zogby said. "There's a lot of unknown about what's going to happen for those kids." ■

RETURN TO PAGE 1

Published May 20, 2025

High School Grads Lack Clarity on Next Steps, Survey Shows

By Elizabeth Heubeck

The majority of recent high school graduates lack clear confidence in their post-graduation plans and say they would have been more engaged in high school—and their future plans—if they had better understood their aptitudes and career options prior to graduation.

That's the overarching takeaway from the new 2025 Post-Graduation Readiness Report from YouScience, an educational technology company that surveyed more than 500 recent high school graduates nationwide from the classes of 2021 through 2024 and analyzed trends across six graduating classes from 2019 to 2024.

"Kids are saying, 'I don't feel ready for the next part of my life,' and that's a big problem," said Edson Barton, the co-founder and CEO of YouScience. "I believe that our education system in the United States is the very best in the world. ... But we have this notion that academics should drive everything, and it really shouldn't; there should be a focus on career, on what you can become."

The report, while indicating a rise in uncertainty among high school graduates about their future plans, also shed light on how recent graduates think the high school experience could better prepare them to launch into the "real world" with greater confidence and direction.

The input comes at a time when schools and districts across the country are working to make the high school experience more engaging for current students, and more relevant for their future.

Michelle Gustafson for Education Week

Genny Willis, an instructor at Smyrna High School in Smyrna, Del., listens to a roundtable of students. At Smyrna High School, there are career pathways and experimental learning opportunities to help students use practical applications towards careers after graduating high school, which can include internships, advanced classes, and specific on-the-job training.

A closer look at the statistics

But as this new survey shows, important signs of post-graduation success are trending downward.

A strong majority of recent graduates (72%) surveyed agreed to feeling only moderately, slightly, or not at all prepared for next steps. Drilling down, their responses indicated the lack of clarity:

- 35% of the graduating class of 2024 who responded to the survey enrolled in a four-year college, compared to 55% of the survey respondents from the class of 2019;
- 2% of 2024 respondents enrolled in a vocational or trade school, compared to an average of 8% between 2019 to 2023; and
- 8% of 2024 respondents reported that they are "working toward a career goal" compared to 13 percent in 2019.

Despite the relatively small sample size of graduates surveyed, some results do closely mirror those captured by the U.S. Bureau of Labor Statistics.

The BLS reported that an estimated 45% of people who graduated from high school between January and October 2023 enrolled in a four-year college or university by October of that year, compared to 41% of 2023 graduates in the YouScience survey.

Respondents did share specifics on how their high school experience could have better prepared them for what's next:

- 50% said more work-based opportunities would have been helpful;
- 45% wanted more career counseling or guidance; and
- 41% said schools should have helped them better understand their aptitudes.

Graduates also pointed out some other regrets, including too few real-world learning experiences in the classroom, and a failure to explore different career options sooner.

More exposure to CTE could help students focus on future

A stronger emphasis on exposure to career and technical education (CTE) could help give students more direction, research shows.

In May 2024, the American Institutes for Research conducted a systematic review of 20 years' worth of research on the impact of CTE and found some evidence of its positive effects. Students who took even one CTE course were more likely to enroll in a two-year college, and those who took CTE courses in high school were also more likely to be employed after they graduated from high school.

And increasingly, the line between CTE

and college-prep courses is being blurred, say some experts.

"Fifteen, 20 years ago, it would be a rarity for a student in CTE to go to a four-year college," said Susan Therriault, a managing director at the American Institutes for Research who leads the organization's K-12 systemic improvement portfolio of work.

Now, she said, it's common for students who take CTE to get a post-graduate certificate from a community college, or enroll in a four-year college to further build on skills.

"It's really changed in a major way," she said.

College-bound students also want experience

Just as CTE is no longer a direct pathway to a post-high school trade position, students bound for college are more likely to appreciate the value of experiential learning opportunities in high school, such as internships and apprenticeships, according to the YouScience survey.

But regardless of where a student falls on this spectrum, they need guidance.

And with most schools generally staffing one school counselor for hundreds of students, it can be challenging to provide students adequate guidance toward helping them discover their interests and talents, Therriault observes. But she does see progress in how educators are beginning to perceive CTE and college preparedness.

"I see more of a convergence than I've ever seen between career and technical education pathways and the more traditional [college-prep] schooling," Therriault said. "It used to be a big challenge to get those folks to even talk to each other, and I believe they both see value in one another. I see more CTE schools interested in college readiness, and I see more traditional high schools interested in providing some sort of career-technical education and training opportunities." ■

OPINION

Published June 03, 2025

Is It Time to Ditch the Four-Year Degree?

The Carnegie Foundation's chief explains what K-12 educators can do to support alternative career pathways

By Rick Hess

Luca D'Urbino for Education Week

The winds of educational change are blowing. Tim Knowles is the 10th president of the Carnegie Foundation for the Advancement of Teaching, the 120-year-old organization that birthed the Carnegie Unit and the Educational Testing Service. Knowles is intent on steering into the teeth of that gale, working to retool the Carnegie Unit and intent on assessing the promise of innovations like the three-year college degree or micro-credentials. These reforms, especially micro-credentials, could open the door to dramatic changes in K–12 education. I caught up with him to discuss what's on his mind and what it means for America's high schools and colleges. Here's what he had to say.
—Rick

Rick: Tim, last year you spoke about the need to rethink the Carnegie Unit, arguing it's outlived its purpose. Along the same lines, you recently critiqued the traditional four-year college model. Can you say a bit about your thinking?

Tim: I've been thinking about achievable ways the nation can crack the $1.77 trillion student debt problem. As I've argued elsewhere, it's fair to point the finger at the soaring cost of college tuition fueled by the widespread availability of student loans. However, there is another culprit that has escaped scrutiny—the 120-credit degree.

The main problem with the 120-credit requirement is it leaves nearly 40% of students who start college with some credits but no degree. That's tens of millions of students who invest time, effort, and money in college but have little to show for it other than debt. Suffice it to say, a 60% success rate is a far cry from excellence. When I was in college—which was way back before grade inflation—60% wasn't even passing.

Like many things in education that have outlived their shelf life, the 120-credit degree was created with good intentions. In 1906, to address the poor pay of college professors, Andrew Carnegie established the Carnegie Foundation for the Advancement of Teaching, where I now serve as president. The first trustees of the foundation established the 120 "Carnegie Unit" standard to quantify the amount of teaching required for college professors to earn a pension. It was a tidy, time-based metric that quickly became an attractive tool for measuring student effort toward earning a degree. To this day, it dictates how much time and money students must invest to obtain one. Fixing the college-debt problem requires acknowledging that outmoded, time-based measures of learning have shaped secondary and postsecondary schooling for far too long.

Rick: What kinds of changes do you have in mind?

Tim: In the longer term, we need more effective and ubiquitous models of competency-based education that radically alter the design and cost of higher education and award "credit" based on what students know and can do. But that's a conversation for another day—let's focus on things we can do now.

I see two immediate ways to reduce the cost of college and lower student debt. I'll start with the easy one. We should shorten the undergraduate degree.

Moving from a 120- to a 90-credit degree would require reexamining how many credits are actually needed to establish proficiency in a field. The good news is there are plenty of places to learn from, as most of the world is already doing it. In the U.K., for example, students complete the vast majority of undergraduate programs in three years—computer science, chemistry, economics, history, creative writing, biomedicine, electrical engineering, finance, and accounting, to name a few. The degrees that extend to four years often include a professional practicum designed to build skills and prepare students for the workplace.

The distinction between 90- and 120-credit hours has profound implications for a labor market that currently requires a four-year degree for most high-paying jobs. Shifting to a 90-credit degree would reduce the cost of college by 25%, lower student debt, and likely make a significant dent in poor college-completion rates. Clearly, if we go in this direction, we'd want to carefully track outcomes like completion rates, employment, and earn-

ings. But given the current state—and the fact that many well-tested models of three-year degrees exist—it seems incredibly shortsighted not to embark on this path.

Rick: There's been a lot of discussion about micro-degrees. Where do they fit into all this?

Tim: That's more complicated. In essence, micro-degrees break the traditional college degree into smaller, more manageable chunks. Some colleges experimenting with this approach call them micro-pathways. They are flexible, short-term programs that can be completed in under a year, provide immediate job opportunities, and serve as the foundation for an associate or bachelor's degree. The basic idea is that students can convert sets of courses and work experience into industry-recognized credentials and ultimately "stack" them into full degrees. So, a student studying data science who has 30 credits in the field, completes a relevant internship, and meets an established bar on a reliable assessment could receive a credential. The micro-degree model reduces the burden of paying for college since students can earn more as they learn, leading to less student-loan debt. Importantly, they also recognize that many Americans step in and out as resources and life circumstances allow. So micro-degrees ensure students get something in return, even if they never complete a full degree. However, there are real challenges. For example, these opportunities exist at the margins of the sector, and they are not mainstream. Even more problematic is that we are swimming in a sea of junk credentials.

Rick: I find micro-degrees intriguing, even if I've got some practical concerns. Here, though, I'm mostly curious about what you think they mean for high schools. What's your take?

Tim: You're right. Since you wrote about micro-degrees in 2023, the number of "recognized" credentials has grown from 46,000 to 104,000. As you suggested, that should raise very red flags about quality and coherence.

To answer your K–12 question, if I were a high school principal or superintendent, I would identify a very modest number of credentials, maybe five or so, that create legitimate paths to meaningful, wealth-generating careers in my regional economy. I would find employers who are willing and able to co-create courses and work-based experiences and establish pathways to those careers for students who want to pursue them. I would also pay very close attention to outcomes: the number of students earning the credentials, success in postsecondary school, and employment and earnings over time. Unless credentialing efforts are tethered to real outcomes, they become another pyrrhic victory in the pantheon of failed reforms.

Rick: OK, so how would you encourage policymakers and educators to think about so far as getting from here to there?

Tim: Here is a short list of things that need to happen.

First, the federal government must maintain a central role collecting high-quality performance data spanning K–12 education, postsecondary education, and the workforce. Jettisoning that role—or spinning it off to the states—could be catastrophic for the economy and educational progress. Second, accreditors must allow for shorter and more flexible paths to degrees tied to meaningful outcomes. Third, employers must help to establish a short list of viable credentials and be willing to hire those who earn them. Fourth, testing companies must create fulsome, competency-based assessments aligned to the short list of viable credentials. Finally, colleges and universities need permission from accreditors and incentives from government and philanthropic groups to establish three-year degrees and micro-credentials.

Of course, one result of these shifts is that students will have to decide which field of study they want to pursue earlier, as shorter degrees will mean less time to learn requisite material. The good news is that hasn't been a problem across the globe—and none of the above should suggest we need to eliminate four-year degrees for the students who can afford or want one.

Big picture, I am convinced the benefits here far outweigh the costs. These approaches will make college more affordable, reduce student debt, increase the number of students who earn a bachelor's degree or another postsecondary credential, and build public confidence in higher education at a moment in history when it is in terribly short supply.

Rick: Last question. Given how big a lift this represents, what's the one policy change that's essential to make it possible?

Tim: Modernize the postsecondary sector so it is focused on outcomes, not inputs. ■

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