

KEY TAKEAWAYS

State policy action around CTE at the K-12 and postsecondary levels is growing. In 2013, states made at least 78 substantive policy changes via law, rules or executive order.

Many states are creating or retooling ways for business and industry leaders to inform CTE offerings. Such states include **Alabama, Florida, Indiana** and **North Carolina**. Example: In Indiana, regional councils evaluate CTE opportunities and can develop alternative curricula.

Several states are providing incentives for completing industry credentials. Such states include **Kansas, Minnesota, Oklahoma** and **Texas**. Example: Kansas school districts earn \$1,000 for every graduate completing a credential on a state list of in-demand occupations.

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Career and Technical Education: States Aligning Programs to Meet Workforce Needs

Across the 50 states, career and technical education (CTE) programs at the K-12 and postsecondary levels have seen enormous policy action – 2013 alone saw at least 78 substantive policy changes via legislation, state board rules and executive orders specific to CTE and workforce development.

What are the drivers behind this sudden policymaker interest? The preambles to and legislative findings in numerous enacted 2013 bills echo a similar refrain: High-skilled workers are necessary for states to compete in a global economy. States must produce greater numbers of individuals holding industry-recognized certificates to fill labor market gaps, including in high-wage, high-demand jobs.

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What's Inside

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And governors in many states have made clear that CTE and workforce development remain top priorities in 2014. This year, State of the State addresses in 18 states and the District of Columbia included proposed initiatives or budget increases to expand or enhance the quality of career counseling, CTE and/or workforce development programs.

Recent data bear out this policymaker interest, and suggest CTE credentials may be a viable but largely overlooked pathway to the middle class. For example, 2012 U.S. Census data suggest that adult workers with “alternative credentials,” such as professional licensure, certifications or educational certificates falling outside the traditional associate’s or bachelor’s degree, experience greater employment stability and higher earnings than adults without an alternative credential.¹

Similarly, a 2012 report from Georgetown University finds that certificate holders earn 20 percent more than high school completers with no postsecondary education, although return-on-investment (ROI) varies depending on “the certificate’s holder’s field of study, whether the certificate holder works in field, and the certificate holder’s sex, race, and ethnicity.” However, the report also notes large differences by state in the number of certificates awarded per capita, as well as the share of the labor force holding certificates.²

Leading thinkers and research groups likewise propose a new direction for state action, including developing a “Learning & Earning Exchange – an information system that would help:

- Students understand the demand for specific kinds of education and training
- Educators reform their programs to better serve their students [and]
- Employers find the workers they need to fill their increasingly complex occupational needs.”³

This issue of *The Progress of Education Reform* explores recent policy trends intended to expand the number of skilled workers trained to fill high-need labor market shortages, including:

- Formalizing avenues for business and industry to inform CTE offerings.
- Blending high school and postsecondary learning opportunities.
- Incentivizing completion of industry certifications and credentials.
- Expanding opportunities for internships and apprenticeships.

States where governors included CTE in this year’s State of the State addresses:

Alabama	Maine
Alaska	Mississippi
Connecticut	New Hampshire
Delaware	New Mexico
District of Columbia	North Carolina
Georgia	Ohio
Illinois	South Dakota
Indiana	Utah
Iowa	West Virginia
	Wisconsin

...The United States will fall short by 5 million workers with postsecondary education – at the current production rate – by 2020.

Source: <http://cew.georgetown.edu/recovery2020>.



Photo credit: Justin May, Ohio Department of Education

Formalizing avenues for business and industry to inform CTE offerings

In 2013, legislative activity in multiple states established formal mechanisms for local or regional entities to solicit business and industry perspectives to inform local CTE courses of study.

Creating or retooling governing structures

In some states, new structures were created to gather this feedback. For example, **Indiana** 2013 [S.B. 465](#) authorizes the governor to establish an Indiana Works Council (“council”) in any region designated by the governor. As of April 2014, councils have been established in [11 regions](#) in the state. The law charged each council with providing state leaders with a comprehensive evaluation of the CTE opportunities for high school students in its region by November 2013. It also authorizes councils to develop an alternative high school CTE curriculum that affords students with opportunities to learn from qualified instructors and pursue advanced and real-world learning opportunities. The state board must approve all alternative curricula before they may be offered.

Florida legislation enacted last year allows local boards to transfer some responsibilities for CTE programs to a CTE-specific governing board with business and industry membership. Florida 2013 [S.B. 1076](#) allows a local district board to appoint a governing board for either a school district technical center or a system of technical centers. This appointed governing board is authorized to align programs with local business needs, and respond quickly to local needs for employees holding industry certifications. In fact, the legislation permits industry representatives to take a lead role on such boards, on which four of seven members would be local business representatives. These boards would make decisions about student entrance requirements, curriculum, program development, budget and funding allocations, and the development with local businesses of partnership agreements and appropriate industry certifications.

However, the programs must meet certain measures of quality: A technical center(s) governing board may approve only courses and programs that contain industry certifications. And a course may be continued only if at least 25 percent of enrolled students earn an industry certification – courses with fewer than 25 percent of students achieving an industry certification must be discontinued the following year.⁴

And new statewide boards spanning the P-20 continuum have been developed with the goal of better aligning education and workforce needs. **Alabama** [legislation](#) enacted this spring creates the Alabama Workforce Council. The council is charged with promoting collaboration across prekindergarten-12, two- and four-year postsecondary institutions, and business and industry. Among the seven charges to the council are to evaluate ways to create a feedback loop for industry and education, and to evaluate public/private partnerships to create industry-funded scholarship programs for community colleges and dual enrollment programs.⁵

Collecting and utilizing data to inform program offerings

Other recent state actions respond to recent recommendations to solicit information about workforce needs, retool CTE programs as needed and get workforce needs information into the hands of students, parents and school staff, who may influence young people’s education and career decisions.

For instance, **North Carolina’s** 2013 [budget bill](#) calls for alignment efforts at both the local and state level. Local school administrative units are directed to consult with local industries, employers and workforce development boards to identify industry certification and credentials that the local school administrative unit may offer to best meet state and local workforce needs. Meanwhile, the department of commerce must provide the state board with a list of occupations in high need of skilled employees. If those occupations are not substantially similar to those identified in the previous year, local school administrative units must be notified.⁶

CTE courses neither limit overall gains in mathematics learning nor the acquisition of basic and intermediate mathematics skills.

Source: Robert Bozick, RAND Corporation, and Benjamin Dalton, RTI International, “Balancing Career and Technical Education with Academic Coursework: The Consequences for Mathematics Achievement in High School,” *Educational Evaluation and Policy Analysis*, June 2013, vol. 35 no. 2 123-138.

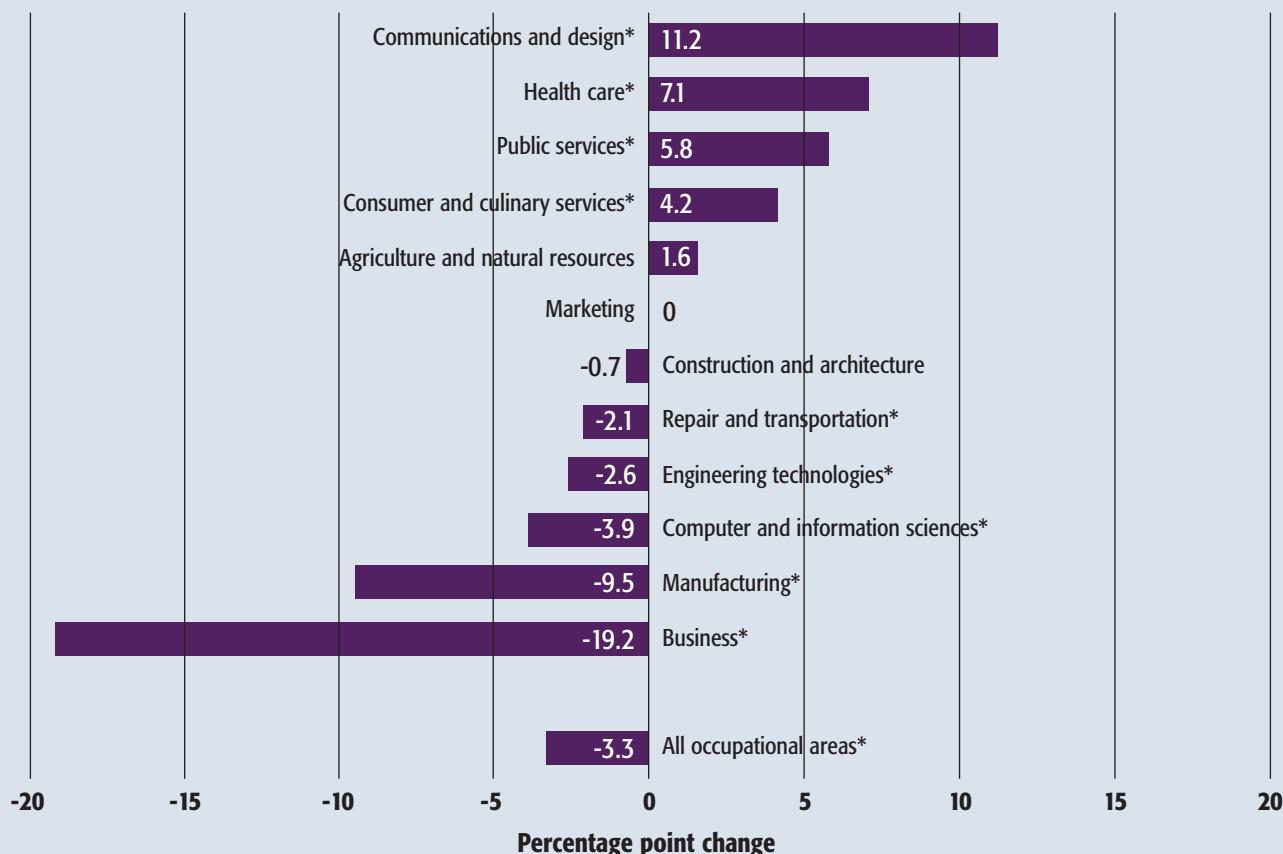
Blending High School and Postsecondary Learning Opportunities

Aligning CTE offerings with workforce needs is a step in the right direction but, for many CTE fields, students will be unable to fill high-demand job vacancies without either a postsecondary credential, associate’s degree or beyond. Bureau of Labor Statistics (BLS) [projections](#) indicate that, of the 30 occupations with the largest percentile growth from 2012-2022, 19 will require postsecondary education and 14 demand at least a bachelor’s degree. A minimum of an associate’s degree is necessary for 18 of the 21 of these occupations garnering salaries above \$34,750, the median annual income across occupations.⁷ And of the occupations with the largest numeric projected growth to 2022, a postsecondary credential will be required for 10 – including four medical occupations where the percentage of new jobs is projected to grow significantly, from just under 20 percent for registered nurses to 29 percent for medical assistants.⁸

Conversely, BLS projections note that of the 30 occupations with the largest projected *decreases* in jobs from 2012 to 2022, only two – first-line supervisors of production and operating workers, and reporters/correspondents – demand a credential above a high school diploma or equivalent.⁹ Only one of the 30 jobs anticipated to see the steepest decline – semiconductor processors – requires more than a high school diploma.¹⁰

When states offer high school students the opportunity to access postsecondary coursework, they allow students to “try on” careers, gain confidence in their ability to succeed in postsecondary and help identify pathways that may lead to a credential and career suited to their interests.

Change in the percentage of public high school graduates earning credits in each occupational area from 1990 to 2009



*Significantly different (p < .05) from zero.

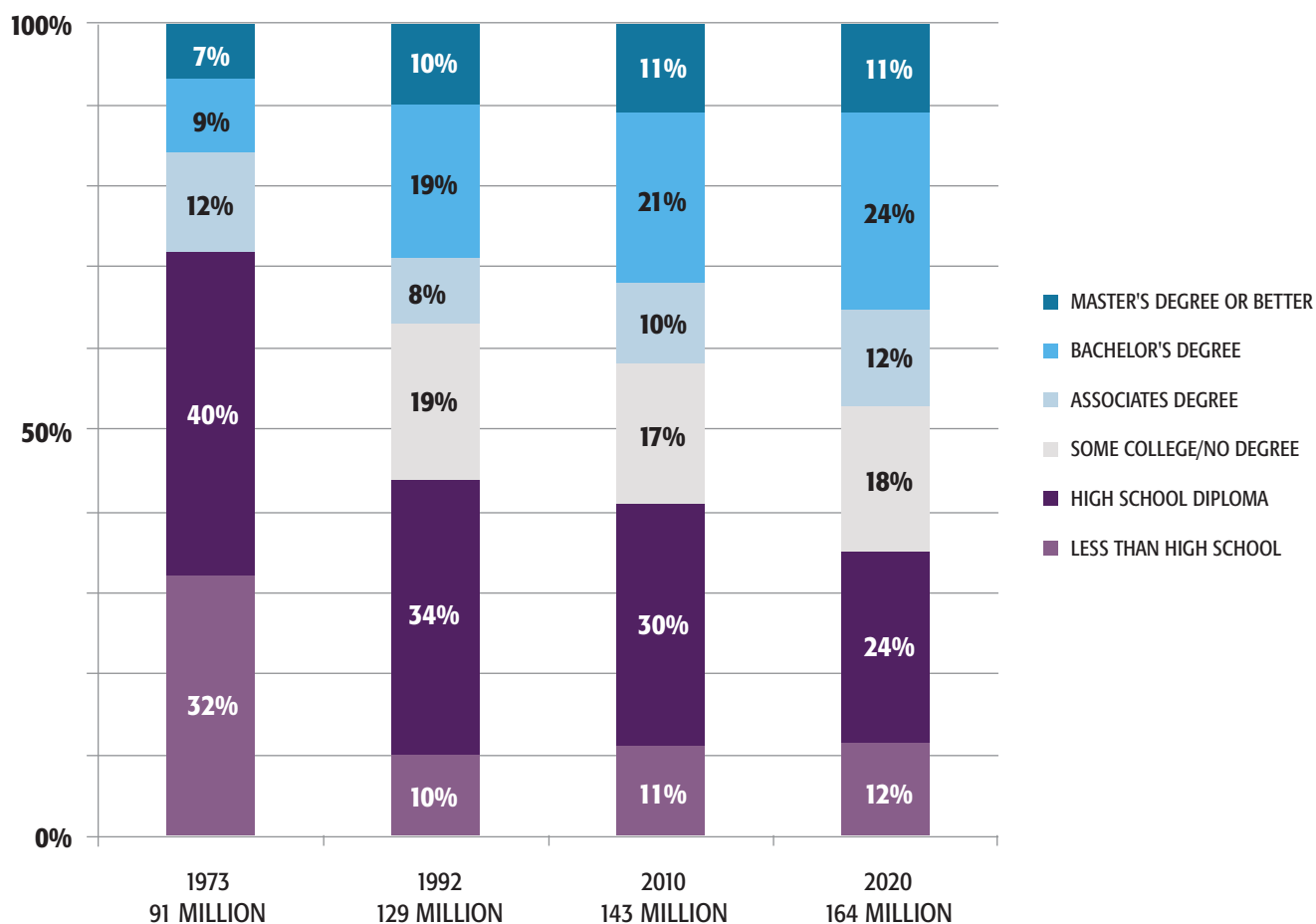
NOTE: Tabular data for percentages and their standard errors are available in tables H126 and SH126, at <http://nces.ed.gov/surveys/ctes/tables/index.asp?LEVEL=SECONDARY>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School Transcript Study, 1990, 2000, 2005, and 2009.

Continuing a trend identified in a 2013 issue of *The Progress of Education Reform*, states are continuing to more closely integrate CTE into dual enrollment programs and enhance funding streams to support these programs. One case in point is **Alabama**, where the 2014 [appropriations bill](#) makes a \$5 million investment in dual enrollment, to be expended at the direction of the Chancellor of the Alabama Community College System to continue, expand and develop career-technical education programs.

Some states are going beyond traditional dual enrollment structures to provide a role for business and industry partners in postsecondary course offerings for high school students. **Louisiana's** emerging Jump Start model provides one approach. The program calls for the development of regional teams, public-private partnerships comprised of school districts, "two-year colleges, local industry, and economic and workforce development experts" to create innovative courses and work-based "experiences leading to [Louisiana Workforce Investment Council]-approved, statewide credentials." Plans for courses and work-based experiences will be informed by industry credentialing entities' curricula and assessments. The program implementation [timeline](#) suggests the program will be phased in over several years and fully operational during the 2017-18 school year.

By 2020, 65 percent of all jobs will require postsecondary education and training, up from 28 percent in 1973.



YEAR AND NUMBER OF WORKING PEOPLE

Note: Number may not sum to 100 percent due to rounding.

Source: Anthony P. Carnevale, Nicole Smith and Jeff Strohl, *Recovery: Job Growth and Education Requirement Through 2020*, (Washington D.C.: Georgetown University, Center on Education and the Workforce, June 2013), <https://georgetown.app.box.com/s/tll0zkxt0puz45hu21g6>.

Incentivizing Completion of Industry Certifications and Credentials

Postsecondary instruction is the gateway to the industry certification or credential required for many growing fields. Yet the cost of postsecondary course sequences leading to an industry credential can be prohibitively expensive. The cost of materials or fees for courses such as welding – and the cost of credentialing exams themselves – may price even middle-income youth out of the market. In recognition of the growing demand in fields requiring industry certification and the barriers that course costs pose, states have taken steps in recent years to remove financial barriers to completing industry certifications and credentials, especially for high-demand occupations.

For example, the aforementioned 2013 **North Carolina** bill provides that, to the extent funds are made available, students enrolled in CTE courses are to be exempt from paying any fees for one administration of examinations leading to industry certifications and credentials.

A **Kansas** initiative is also incentivizing program completion through a financial “carrot” to districts. As a result of 2012 **S.B. 155**, districts are eligible for a \$1,000 incentive reward for each student who graduates having completed an industry-recognized credential on a state-approved list of occupations in greatest need of additional skilled employees.

And states are also using “sticks” for schools and districts to successfully see students through industry certification exams, both in terms of school and district accountability performance metrics and in the public reporting of school and district outcomes. A December 2013 ECS [analysis](#) identified four states – **Alabama**, **Minnesota**, **Oklahoma** and **Texas** – that include the number or percentage of students earning national industry certifications in calculations of school performance.¹¹ Interestingly, just one of these states – **Minnesota** – also included national industry certifications in public report cards.¹²

Expanding Opportunities for Internships and Apprenticeships

While the 21st century skills movement has made “real-world learning” a catchphrase for academic coursework for the better part of a decade, the CTE world has not seen a similar emphasis on “real-world” experiences in terms of hands-on experiences in actual workplaces – until recently. Over the past year, however, numerous state policy actions incentivize and provide extended opportunities for genuine work experiences through CTE internships and apprenticeships.

Legislation enacted in spring 2014 authorizes the **Indiana** Economic Development Corporation to award grants to applicant school districts and charter schools “to support cooperative arrangements with businesses for training students.” An employer who proposes to hire students who have participated in such a cooperative arrangement for high-wage, high-demand jobs that require industry certification may apply for a tax credit for each such hired employee.

In terms of incentivizing institutions to offer and recruit students to apprenticeship programs, 2014 legislation enacted in **Oregon** provides that apprenticeship programs registered with the State Apprenticeship and Training Council and completed by adult Oregonians “count” toward the goal of having at least 40 percent of the state’s population hold an associate’s degree or postsecondary credential as their highest level of educational attainment by 2020.¹³

Ohio, which has established internships and co-ops as one of the board of regents’ [agency initiatives](#), is making a significant investment in postsecondary worksite learning opportunities in 2014-15. Leveraging a state investment of nearly \$11 million from casino license fees, with matching private funds from grantee institutions, the state is offering almost 2,500 students at public four-year institutions, community colleges and technical centers new or expanded opportunities to participate in internships and [co-op](#) programs. Businesses across the state will offer paid and credited internships or co-ops to students in partnering schools, in such industries or functions as “advanced manufacturing, aerospace/aviation, agribusiness/food processing, automotive, biohealth, energy, financial services, information services/software, polymers/chemicals, and business functions such as logistics, consulting, and research and development.”¹⁴

ECS RESOURCES

ECS State Policy Tracking Database includes sections on [CTE](#), [STEM](#) and [economic/workforce development](#), and a CTE breakout on [apprenticeships/career academies](#).

[CTE Dual Enrollment: A Strategy for College Completion and Workforce Development](#) identifies four key policy components to enhance program access, quality, and credit transferability.

[Dual Enrollment: CTE Component](#)
This data point from a 2013 dual enrollment [database](#) identifies whether state policy explicitly allows high school students to enroll in CTE coursework for high school and postsecondary credit.

[Career/Technical Education: Not Your Father’s Vocational Education](#).
This 2013 issue of *The Progress of Education Reform* identifies new approaches states are adopting to support career-readiness for students.

Endnotes

- 1 Stephanie Ewert and Robert Kominski, U.S. Census Bureau, *Measuring Alternative Education Credentials: 2012*, January 2014.
- 2 Anthony P. Carnevale, Stephen J. Rose and Andrew R. Hanson, *Certificates: Gateway to Gainful Employment and College Degrees*, (Washington D.C.: Georgetown University, Center on Education and the Workforce, June 2012.)
- 3 Anthony P. Carnevale, Tamara Jayasundera and Andrew R. Hanson, *Career and Technical Education: Five Ways That Pay Along the Way to the B.A.*, (Washington D.C.: Georgetown University, Center on Education and the Workforce, September 2012.)
- 4 FLA. STAT. ANN. § 1001.42(26)
- 5 2014 Alabama S.B. 217
- 6 North Carolina Session Law 2013-360, section 8.28(b)
- 7 Emily Richards and Dave Terkianian, U.S. Bureau of Labor Statistics, "Occupational employment projections to 2022," *Monthly Labor Review*, December 2013, table 26.
- 8 Ibid, table 25
- 9 Ibid., table 27
- 10 Ibid., table 28
- 11 <http://ecs.force.com/mbdata/mbquestRT?Rep=AR03>
- 12 <http://ecs.force.com/mbdata/mbquestRT?Rep=AR04>
- 13 ORS § 351.009
- 14 Ohio Board of Regents, *Ohio Board of Regents Announces Internship/Co-Op Grant Recipients*, Press Release, March 11, 2014.



Photo credit: Justin May, Ohio Department of Education



Photo credit: Justin May, Ohio Department of Education

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