



AN INSIDE HIGHER ED SPECIAL REPORT

On-Ramps and Off-Ramps:

Alternative Credentials and
Emerging Pathways Between
Education and Work

New Foreword | *Inside Higher Ed* Co-Founder and Editor Doug Lederman

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Foreword

The COVID-19 pandemic and the recession it spurred have accelerated and exacerbated many preexisting trends and problems in higher education. To name just a few: Intense financial pressures on scores if not hundreds of colleges and universities. Public questioning of the value of a degree. Racial and socioeconomic inequity. The steady, if slow, drift toward digital forms of learning.

All of those pressures had contributed in recent years to burgeoning interest among employers, current and prospective workers, and policy makers in a wide range of alternative credentials, including certificates and industry certifications, apprenticeships, digital badges, microcredentials and lower-cost online master's degrees.

So it's not surprising that the societal and economic changes wrought by the confluence of a global pandemic, the worst recession in 100 years, and deep questioning of racial justice in American society have intensified interest in new pathways to career and life success.

Inside Higher Ed's recent report, "On-Ramps and Off-Ramps: Alternative Credentials and Emerging Pathways Between Education and Work," remains more relevant than ever.

Many of the trends identified in the 2018 report had accelerated even before COVID-19 emerged. Google [continued to expand](#) its online IT certificate, adding community college partnerships and pathways to bachelor's degrees.

IBM created one of the most developed [digital badge portfolios](#) for an employer, added [more and different apprenticeship](#) opportunities, and launched its own [boot camp-style offerings](#).

Amazon [announced](#) that it would spend \$700 million to train its workers – mostly outside the realm of traditional colleges and universities.

And numerous colleges and universities embraced lower-cost graduate programs delivered virtually, often in conjunction with providers of massive open online courses – in the University of Illinois’s case so successfully that it [wound up killing off](#) its traditional MBA program.

COVID-19 and the recession promised to exacerbate this transition. Many workers were displaced from jobs, and the work-from-home norm driven by the pandemic gave workers more experience with technology and more control over their days.

A longitudinal survey conducted by the Strada Education Network [through the early months of the pandemic](#) found that 59 percent of Americans who said they intended to pursue additional education amid the recession preferred nondegree programs, such as those leading to certificates or licenses or courses that held personal interest.

It is far too early to tell how much the sudden COVID-19-driven shift to remote learning in the spring will alter the long-term arc of online and virtual education. Or whether the experience will increase the comfort of colleges and students alike in alternative credentials and degree pathway – many of which are delivered at least partly through virtual means.

But many providers of education and training [reported major surges](#) in consumer interest in spring and summer 2020. Bootcamp providers like General Assembly and Flatiron School saw sharp increases in applications

and visitors, and massive open online course platforms such as Udemy and Coursera saw record web traffic and enrollment.

Colleges and universities with flexible learning models benefited, too, driving interest in virtual degree and non-degree options.

“Many people have moved to a remote work environment and that’s not likely to change over the next 12 months, maybe the next 24 months. There will likely be a permanent shift in employees who will spend at least some time working from home,” says W. Brooke Elliott, associate dean of online programs at the University of Illinois at Urbana-Champaign.

“There are people who may have never considered learning in a remote or online environment before all of a sudden realizing, ‘Hey, it can be done,’ “ Elliott says. “People are looking for flexibility in education, the same way they’re experiencing flexibility in their work environment.”

COVID-19 and the recession have scrambled and complicated the worlds of work and education as they have just about everything in our society. Exactly what will change, and by how much, will be unclear for some time. But it’s safe to say that transformations in how Americans are educated and trained for work have been under way for some time, and that the trends and questions explored in [“On-Ramps and Off-Ramps: Alternative Credentials and Emerging Pathways Between Education and Work”](#) can help campus leaders navigating a future for their institutions. ■



Executive Summary

The college degree remains the best ticket to a rewarding career and the middle class. But the traditional degree pathway is failing to meet the nation's postsecondary education and training needs. As a result, a growing number of colleges are partnering with employers—or brokers who make those connections—and noncollege education providers to offer alternative credentials.

This broad category (see sidebar) includes certificates and industry certifications, apprenticeships, digital badges, microcredentials, and new forms of online master's degrees. Enabled by advancing digital technology and often delivered in modular formats, these credentials typically are aimed at working adults who can't or won't spend the time and money to enroll in a campus-based degree program.

Alternative credentials tend to focus on job-relevant skills and competencies, which education providers develop jointly with employers. Ideally, they are backed by data on labor-market demand, and they can be affordable on-ramps to traditional college programs or off-ramps to jobs.

These emerging forms of postsecondary education currently do not threaten the primacy of the university degree. Rare is the traditional college-age young adult or parent who today would choose an alternative credential over a diploma from State U or Mom's alma mater.

And most of the upstart credential programs featured in this report enroll just dozens or hundreds of students,

often through one-off partnerships between community colleges and regional employers.

Yet changes in technology, demographics and the rapidly transforming economy have contributed to potentially unsustainable gaps between higher education and labor markets. Alternative credential programs that are less expensive and shorter in duration than their degree counterparts could help close those gaps, while also competing with traditional colleges that serve adult students.

The expansion of alternative credentials is helping to blur boundaries between credit-bearing and non-credit programs, between colleges and noncollege providers, and between higher education and post-high school job training. Defined broadly, alternative credentials and the competency-based learning systems that undergird them will change how many colleges operate, and warrant attention from faculty members and college leaders.

Roughly 42 percent of American adults hold at least an associate degree. Deep racial and ethnic gaps persist in degree attainment, as just 30 percent of African Americans and 22 percent of Latinos hold a college degree. Yet three-quarters of new

WHAT ARE ALTERNATIVE CREDENTIALS AND PATHWAYS?

This report focuses on postsecondary credentials beyond the traditional college degree as well as emerging entry points to degree programs for students.

Categories explored include certificates issued by employers and other noncollege education providers. These credentials tend to take less than two years to complete and feature assessments based on job-relevant skills. In some cases they include quality-control requirements set by a third party, such as the American National Standards Institute.

Some noncollege credentials include a path to college credit and an accredited certificate, such as through articulation agreements and partnerships with community colleges. This report also looks at experimental forms of short-term, credit-bearing certificates issued by colleges, particularly ones that are designed to be “stackable,” meaning that completers can apply them to degree programs without losing credits. Likewise, a growing number of colleges are partnering with nonaccredited providers to offer online course content as a credit-bearing accelerated pathway to a degree program.

Occupational licenses are typically issued by state agencies and feature job-based skill requirements. In some cases states pay for

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WHAT ARE ALTERNATIVE CREDENTIALS AND PATHWAYS?

CONTINUED

colleges to administer licensing exams as part of certificate programs.

Work-based education and training programs included in this report include coding and skills boot camps, short-term project-based learning, and apprenticeships that feature credit-bearing college learning.

Alternative credentials students can earn as add-ons to a degree include digital badges, experiential transcripts and noncredit certificates from boot camps or “last-mile training” providers.

Online graduate programs appear to be particularly well suited to alternative credentials. For example, a growing number of colleges and universities are offering short-term, potentially credit-bearing credentials in partnership with massive open online course (MOOC) platforms, such as edX’s MicroMasters and Coursera’s Specializations, which can be new entry points to those institutions’ online graduate programs.

Competency-based education, loosely defined, is the reliance on typically employer-relevant skills and competencies instead of traditional grades, usually with elements of self-pacing. Most of the alternative credentials included in this report use competency-based curricula. And some college degree programs rely on direct assessment, a more experimental form of competency-based education that is untethered from the credit-hour standard, in which students can bypass course content by showing what they know and can do in assessments. ■

jobs created in the Great Recession’s wake required a bachelor’s degree. And a projected two-thirds of all jobs will require some kind of post-high school education by 2020.

Based on interviews with more than 75 experts, this report seeks to explore the following central question:

Can colleges and nonaccredited education providers team up with employers to create viable forms of alternative credentials that will help more Americans get a first job or promotion or make a career change?

The last flurry of hype around potential disruptions to the college degree, which peaked six years ago during the MOOC craze, was dubbed an “unbundling” of college-level learning. This time around, however, can be described as a rebundling, or a thoughtful packaging of modularized learning—both the college and non-college varieties—into job-relevant, academically sound credentials.

When done well, alternative credentials give a glimpse of what true lifelong learning—the holy grail for some educators—could look like in the knowledge economy. With flat or sinking enrollment projected for traditional degree programs, these more nimble forms of skills-based training could extend traditional higher education’s reach for huge numbers of adult workers who have earned college credits and on-the-job experience but lack a degree. And the



“There has to be a pathway to the bachelor’s for anyone who wants it and can do it.”

Anthony Carnevale

Georgetown University
Center on Education and the Workforce

nascent, yet increasing popularity of these credentials opens the door to noncollege providers that can be more agile than traditional colleges.

More money may soon be flowing to alternative credentials. The federal government and states are contemplating new support, including funding for short-term Pell Grants. Meanwhile, the Lumina and Gates Foundations are seeding experimentation as private capital fuels the expansion of new forms of credentials.

Employers are taking a more active role in working with education providers to create more postsecondary educational pathways. Many have no choice, given the serious labor pool shortages they face in the tight job market.

Technology companies have taken the lead in using alternative credentials to hire workers, particularly in IT, data science, cybersecurity or cloud services. But nondegree credentials for so-called middle-skills jobs—meaning

ones requiring more than a high school credential but no bachelor’s degree—are on the rise in several other industries, too, including hospitality, health care, advanced manufacturing, energy, sales and human resources.

Many within higher education and beyond are deeply skeptical about the push, questioning the vocational focus and value of alternative credentials, which some say are just a repackaged form of job training that employers should be providing to their own workers. An expanding credential system itself is controversial, with some economists and sociologists arguing that degree inflation and the potential for a significant number of low-quality credentials could contribute to a separate-but-unequal tier of higher education.

Yet supporters say alternative credentials could chip away at barriers to the middle class. For example, they could help more prospective college students bypass the traditional degree to get a well-paying job. Ideally, the pathway also offers an affordable start on a college-level education, with less risk of failing to graduate or defaulting on loans, national crises that disproportionately affect black, Latino and low-income students.

The expansion of alternative credentials over the last decade has been slow and incremental. Broad acceptance of them will take years, experts say. But the conditions are right for the creation of more postsecondary options for millions of working adults.

While it remains an ambitious or even far-fetched concept for now, a growing number of educators are working toward a future where students never fully leave college, returning throughout their careers to bolster their skills and knowledge. ■

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One hundred years from now, degrees will almost certainly still be critically important, as aspirational goals for students, as signals of educational attainment in the workforce, and as heuristics for human communication about the education experience. The question before us is not, in the view of the Entangled Group, how to replace degrees or the institutions that confer them, but instead, how to make them best serve the needs of colleges and universities, faculty members, society, students and employers.

We've observed that educational institutions -- state-led K-12 districts, community colleges, public and private universities and corporate education departments, are linked in a network that behaves more like a complex living ecosystem than an administrative bureaucracy. We try to align ourselves with the real needs of that entire ecosystem.

The Entangled Group's mission is about enabling that ecosystem's transition to optimally support the knowledge economy as opposed to the industrial economy, for which most institutions within it were originally designed. The approach that the ecosystem needs is two-fold -- including both professional services and high-tech ventures.

Professional services, in our view, need to be led by practitioners and innovators who help today's existing education providers to design and pursue meaningful future states that align with the needs of their constituencies. In our view, the world has enough consultants who drop off Powerpoint decks, and what institutions need are thinker-doers who roll up their sleeves to help provide operational expertise, insights and experience to bold leaders.

In addition to professional services, The Entangled Group believes that high-tech ventures can facilitate the transition to optimally support the knowledge economy by developing powerful tools that act as scaffolding as the ecosystem transforms.

As technology platforms become ubiquitous tools for getting work done, companies like PathStream will emerge to help train people on their use. And as the college value proposition evolves, companies like ReUp can help universities to re-engage students who stop out to continue to pursue their dreams. And as colleges seek ways to connect more meaningfully to the knowledge economy and to provide opportunities to their students for internships and in-demand skill training, we think that focused technology companies that have yet to be created can help.

It's not about disrupting schools, it's about helping schools to evolve. And it's a privilege to support *Inside Higher Ed* on this meaningful study of credentials.

A handwritten signature in blue ink that reads "Paul Freedman".

Paul Freedman

CEO and Co-Founder of Entangled Group



The Landscape

A child born in the West today has a better than even chance of living to 105. And as lives lengthen, so do careers. A century of living means six or more decades in the work force.

Rovy Branon, vice provost for the University of Washington's Continuum College, says the challenges posed by this fact help shape his institution's planning. The flagship public university recently renamed its continuing education division Continuum College, to better reflect the new reality described by Lynda Gratton and Andrew Scott in their book, *The 100-Year Life: Living and Working in an Age of Longevity* (Bloomsbury Publishing).

"We live in an ever-changing world where continuous learning isn't a luxury, it's a necessity," Branon said when the university rolled out the new name. "While college degrees remain the essential core of higher education, succeeding in the new economy requires new pathways for people to thrive."

Last year, 54,311 students pursued noncredit professional certificates and advanced degrees from the rapidly expanding Continuum. But Branon says the college is gearing up for a more ambitious future, one designed for lifelong learners and long lives. To do so, Continuum is experimenting with short-term alternative credentials for whenever students need to skill up or change jobs, from high school until they retire.

"What does a curriculum look like over a 60-year work life?" Branon says, describing credentials that allow for less discrete and episodic contact between students and the college. "What does it look like when that experience becomes continuous over a lifetime?"

The answer, he says, involves working closely with employers to create new skills-based postsecondary credentials. That means



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Rovy Branon

University of Washington’s
Continuum College

experimenting with alternative credentials beyond the college’s already broad range of academic offerings, which include certificates and degrees, online and in-person programs, free courses offered on MOOC platforms, and informal and formal programs aimed at adults over 50.

For example, this fall Continuum will begin offering its Career Accelerator [certificates](#), which are aimed at helping working adults develop in-demand skills in data analytics, data science, machine learning, programming and project management. The noncredit certificates will be available in four formats: self-paced and online; accelerated and blended with online and classroom components that

can be completed in less than two months; group-based and online with an expected length of five to nine months; and a part-time, classroom-based evening version.

Continuum’s strategy is about trying to create the “right education for the right students at the right time,” says Branon. That means ever closer collaboration with massive employers in the Seattle university’s backyard, including Boeing, Microsoft and Amazon.

“This is a potentially connected whole, and a different way to think of higher education,” he says. “We want to maximize all modalities.”

Small Programs, Growing Interest

It’s not just Continuum and other forward-looking university continuing education divisions that are creating new alternative credentials and pathways. The growing number of institutions that are expanding credential options range from community colleges to highly selective research universities. These experiments increasingly feature detailed job-market data and a role for third-party organizations and vendors, such as online program management (OPM) or MOOC platforms, industry associations, labor unions and other intermediaries.

“Alternative credentials are intended to be quick, flexible and just in time,” says Scott Cheney, executive director of Credential Engine. “That’s what the market is crying out for.”

The Lumina Foundation–funded Credential Engine seeks to be a [repository for information](#) about all credentials. It estimates that there are 500,000 to 750,000 credential programs in

the U.S. alone. Information about alternative credentials is particularly hard to collect and understand. Clifford Adelman, an education data expert who died earlier this year, [wrote](#) in *Inside Higher Ed* that alternative credentials exist in a “data desert,” and that little is known about the demographics or outcomes of students who pursue them.

Alternative credentials also currently account for a small sliver of America’s postsecondary training options.

Currently, more than one in four Americans hold some form of traditional, nondegree credential, such as a certificate or an occupational license or certification, according to the most recently available federal data. And colleges awarded one million nondegree certificates and credentials in 2016, up from fewer than 600,000 in 2002. Roughly half a million people currently are working as federally registered apprentices, about 0.3 percent of the work force.

However, newer forms of emerging alternative credential programs, such as graduate microcredentials, short-term apprenticeships and boot camps, are boutique offerings that enroll far fewer students. Just a handful featured in this report currently enroll more than a thousand students.

The traditional four-year degree, particularly one earned at a residential campus, remains the least disturbed by advances in alternative credentialing. But a growing number of colleges are experimenting with skills-based add-ons to the bachelor’s degree, including digital badges and portfolios, experiential transcripts, and project-based learning offered through partnerships with outside providers.

Much of the action with alternative credentials

and pathways is occurring with online graduate programs. The University of Illinois at Urbana-Champaign is at the forefront of this experimentation and now offers three master’s degrees through the online platform from Coursera, the MOOC provider. The university’s master’s of computer science and business administration (the iMBA) have the largest enrollments of any graduate program at the university.

Potential students can take two open online courses on Coursera as an introduction to the degree programs, says John C. Hart, a professor of computer science at Illinois and director of online and professional programs in computer science. Those course bundles serve as an admissions funnel for capable working adults.

The three Coursera degree programs, which include elements of self-pacing for students who work full-time, are priced at \$21,000 in total tuition and fees, roughly half the price of their campus-based equivalents. But faculty members teach the online version with equal rigor to the parallel campus-based version.

“They’re teaching the same material at the same level with the same academic rigor,” says Hart.

Sean Gallagher wrote the influential 2016 book *The Future of University Credentials: New Developments at the Intersection of Higher Education and Hiring* (Harvard Education Press). He sees big potential in “hybrid degrees”—online graduate programs from selective universities that are hosted on MOOC platforms to create new options in the graduate degree space.

Gallagher, the founder and executive director of Northeastern University’s Center for the Future of Higher Education and Talent

Strategy, compares these emerging graduate degree options to price-differentiated brands from clothing conglomerates, like Gap Inc.'s Banana Republic, Gap, Old Navy and Athleta lines—different options at different price points for students with different goals.

This category of alternative graduate degrees is accredited and valued by employers, mostly because they are backed by highly selective universities. But many types of alternative credentials tend to be limited in their “portability,” defined as their value to employers beyond the one the college worked with to design it. Few feature common standards or taxonomies around required skills and competencies, which creates confusion and can prevent credentials from being portable.

A recent study found that job recruiters spend an average of six seconds reviewing a résumé. And if a human resources department doesn't know what an alternative credential signals about a job applicant's knowledge skills, it has little value.

Yet there is enormous growth potential in credentials that are specifically designed for individual employers. And many experts say broadly scalable alternative credential pathways may soon become viable.

“The future of work is coming relatively quickly,” says James DeVaney, associate vice provost for academic innovation at the University of Michigan.

Michigan is at the forefront of universities that are creating ambitious new credential pathways for students, alumni and populations of adult workers who otherwise would not benefit from the university's academic offerings.

“It doesn't seem like an option to not go in

“

“The hard part is not developing the curriculum. It's the employer connection. You should start there.”

Ryan Craig

University Ventures

this direction,” DeVaney says. “If the technology allows us to reach a far greater number of learners, shame on us for not.”

Employer-Designed Curricula and Credentials

With increasing volume, employers complain that traditional higher education and training systems are failing to produce job candidates with the skills needed to fill open positions. Yet many say both sides of the divide between college and jobs deserve blame for failing to create adequate postsecondary education options in a fast-changing, knowledge-based economy.

“Business too often has sat on the sidelines and carped,” says Brian K. Fitzgerald, CEO of the Business–Higher Education Forum.

But lately, motivated by necessity and a desire to diversify their work forces, employers are getting into the alternative credentials game.

“

“We had a real challenge finding qualified applicants. But we realized that qualified didn’t mean having four-year degrees.”

Natalie Van Kleef Conley

Grow With Google

Much of the recent experimentation is now happening outside the academy, and some of those credentials can be true alternatives to traditional college offerings.

A growing number of corporations, professional associations and labor unions are taking the lead in designing their own competency-based offerings, many of which include a credit-bearing pathway for students to earn a more formal credential with a university or college partner.

For example, Google in January introduced a new certificate for IT support jobs. The company developed the certificate’s content and assessments. It’s intended to prepare job seekers for entry-level, middle-skill jobs, meaning roles that require more education and job training than a high school credential, but less than a bachelor’s degree. The fully online program is offered on Coursera’s platform. The certificate is designed to be completed in eight months, but students can move at their own speed. As of the end of June, 40,000 learners had enrolled in the program.

“We had a real challenge finding qualified applicants,” says Natalie Van Kleef Conley, a senior program manager at Google. “But we

realized that ‘qualified’ didn’t mean having a four-year degree.”

Many colleges are gearing up to offer credit and formal certificates for completers of the Google program or for courses from Google Cloud, including dozens of community colleges, Duke University and the forthcoming online, competency-based college run by the California community college system.

It’s not a coincidence that powerful brands like Google and Duke are behind some of the most ambitious alternative credential pushes. For one thing, brands bring with them the trust and large communities that are necessary to make new forms of credentials valuable, said Matthew Rascoff, Duke’s associate vice provost for digital education and innovation.

“The same things that get you a good brand get you good engagement,” he says.

As is the case with the Google certificate, most of the credentials featured in this report are intended to serve as entry points for more postsecondary education, meaning stackable and potentially credit-bearing starts on a formal college credential, if the earner decides to pursue that path. Ideally, they also have

immediate value in the job market, meaning they can be an off-ramp from an education program to a career. This emerging approach can help ensure that alternative credentials extend traditional higher education's reach, rather than threaten the college degree.

But new forms of credentialing are coming online with or without traditional colleges. And if experts are right that the field will continue to expand, early adopters in higher education, ranging from entrepreneurial community colleges to highly selective research universities, likely will separate themselves from the rest of the pack.

"The sky's not falling for higher education ... but we are in a period of decline," says Gallagher. "You need to find alternative student pipelines."

Are emerging types of credential programs actually college, however, or just a new form of job training?

Skills-based credentials, designed by or specifically for employers, can have "instrumental benefits" if designed well, says Johann Neem, a senior fellow at the University of Virginia's Institute for Advanced Studies in Culture and a professor of history at Western Washington University.

But he says postsecondary vocational training programs shouldn't be billed as the equivalent of a college degree grounded in the liberal arts and sciences.

"That's not a college education," Neem says. "These things are not all the same."

Some alternative credential experiments are worth trying, says Neem, particularly if they're clear about what they are. He cites the Google IT certificate as a utilitarian example.

"My hope is that we can liberate colleges from of the burden of educating the entire work force," Neem says, while at the same time "we can liberate students from the expectation that they need to go to college."

AI, Peak Credential and Last-Mile Training

Alternative credentials extend across the full career life cycle, from high school to post-graduate credentials. This report follows that same chronological order. Most of the examples, however, are aimed at working adults and include online learning components.

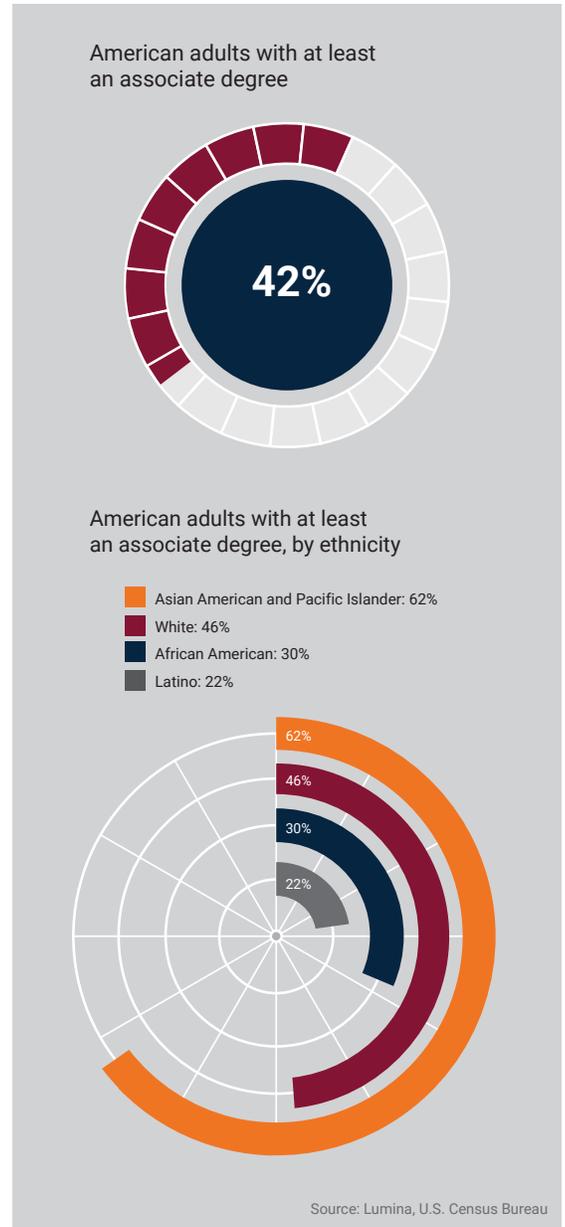
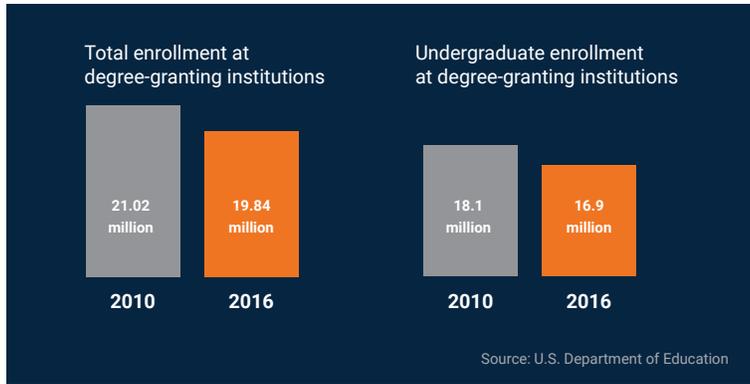
The rise of alternative credential pathways has been heralded before. And those forecasts largely failed to pan out. Early signs suggest this time could be different.

One reason is that the amount of time employees stay in jobs is shrinking, as is the time period in which specific job skills remain relevant.

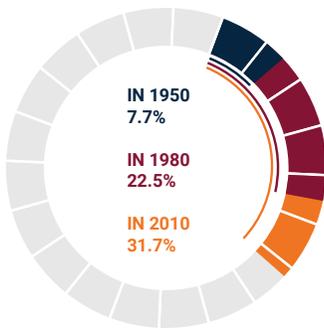
The median time that paid workers had been with their current employer declined to 4.2 years in 2016, down from 4.6 years in 2014, according to the U.S. Bureau of Labor Statistics. Employee tenure is shorter for young workers, with the median time in a job of workers who were between the ages of 55 and 64 being 10 years, compared to just 2.8 years for workers who were 25 to 34 years old. The federal data show racial and ethnic gaps, too, with substantially more black and Latino workers being on the job for less than a year than is true for their white and Asian peers.

Likewise, some experts say the [half-life of a learned skill](#) has shrunk to just five years.

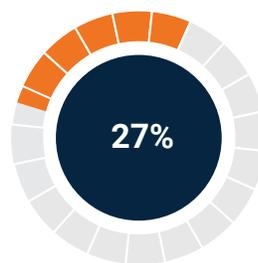
Credentials, Debt and the Job Market



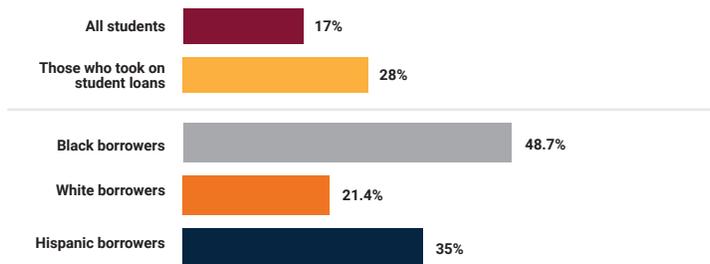
American adults aged 25-29 with a bachelor's degree or more
Source: U.S. Department of Education



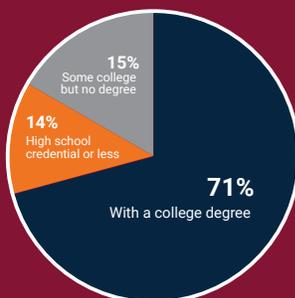
American adults with a nondegree credential in 2016 (certificate, certification or license)
Source: U.S. Department of Labor



Student loan defaults by race (of those who entered in 2004 and defaulted by 2016)
Source: U.S. Department of Education, Brookings Institution



Of the 10.6 million jobs added since 2012, the majority have gone to hires with a college degree.
Source: Brookings Institution

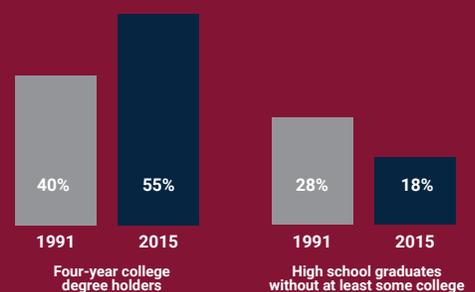


Most employers pay 11-30% more for college graduates

Source: Burning Glass

Percentage of individuals holding well-paying jobs (overall median annual pay of at least \$55,000)

Source: Georgetown University's Center on Education and the Workforce



“Jobs come and go,” says Jonathan Lau, senior vice president and general manager of the skills division at Cengage Learning, noting that the problem is “jobs change and the people didn’t change with them.”

As result, demand is increasing for short-term, affordable “just in time” skills training.

“There’s a tremendous population that needs our help, that’s very capable,” says Michael Moore, chief academic and operating officer for eVersity, the University of Arkansas System’s relatively new online institution.

A 2016 survey of colleges and universities from Pearson and the University Professional and Continuing Education Association (UPCEA) found that 94 percent of institutions award some form of alternative credentials, with 70 percent offering noncredit training and one in five awarding digital badges to students. And 13 percent of colleges reported offering a form of microcredentials.

“That is without a doubt where the action is,” Cheney says.

Likewise, almost two-thirds of the survey’s respondents said they see alternative credentialing as a revenue-generating opportunity—a priority for public colleges that are dealing with slumping state budgets, as well as for many struggling private colleges.

Key drivers to the expansion of alternative credentials, experts say, are low unemployment rates and concerns about rising student debt levels. Debt and high student loan default rates, particularly among underrepresented minority students, have contributed to questions about the return on investment for traditional college degree programs. And while a mountain of data shows that earning

a degree is usually a good investment, failing to complete is a different story, even for students who take on relatively small amounts of debt.

Shifts in the job market also are contributing urgency to experiments with credentials. Employers increasingly are tapping artificial intelligence while using automation for repetitive tasks. This, in turn, means that companies need to hire or train more employees with awareness or proficiency in data science and AI, as well as more technical experts. For example, insurance companies need actuaries who have some understanding of the artificial intelligence used to create pricing models.

“AI is going to transform every single job,” says Fitzgerald, of the Business–Higher Education Forum. That doesn’t mean a change in most employees’ primary role, he says, but in their baseline, functional skills needed to fill the role.

Meanwhile, a small but growing number of employers are [dropping degree and work requirements](#) for job applicants, a development some link to growing doubts about the signal degrees give about job readiness and skills. But these anecdotal shifts have not changed the broader overall postrecession trend of more open positions requiring a college degree.

The tight job market, particularly in big cities, has led to a slight decline in job postings that require a college degree, to 30 percent from 32 percent, according to data from Burning Glass Technologies, a labor-market research firm. IBM, in a widely cited example, now relies on “new collar” skills development at

community colleges, boot camps, apprenticeships and other internal training programs for about 15 percent of its new hires.

While technology companies are most likely to have dropped degree requirements, [others that have done so](#) include Bank of America, Ernst & Young and Penguin Random House, a publishing company.

Referring to the theory about oil production eventually tapering off, Ryan Craig thinks we've already passed the "peak credential" point. In place of more formal postsecondary credentials, Craig, co-founder and managing director of University Ventures, is betting on the continued expansion of employer-subsidized "last-mile" education and training programs, which bridge the gap between college and employment. This is happening now in entry-level hiring in IT, web development, data science and cloud computing. And Craig sees big potential in last-mile training for health-care jobs like medical device sales and health informatics, as well as in energy, aviation, paralegal and other areas.

"You're essentially solving the future talent needs," says Craig. "If there's value there, the employers will pay."

Meanwhile, college enrollments have been declining for seven years, according to the National Student Clearinghouse Research Center. Overall undergraduate enrollment declined by 7 percent between 2010 and 2016. And demographic projections suggest that numbers of potential college students in traditional age groups will continue to slump for years. For most colleges, the only potential growth market is adult workers, including the

37 million or so Americans who hold some college credits but no degree.

As a result, more private investment is flowing toward alternative credentials and pathways. Big foundations are kicking in grant money for experiments. And many in the field are gearing up for potential new streams of federal and state money.

Meanwhile, maturing online education technology and changing attitudes about digital learning in the academy are also helping to open the door to more alternative credential pathways.

"There's excitement about online education," Wendell Pritchett, provost at the University of Pennsylvania, said when his institution in July [announced](#) a new online computer science master's degree on the Coursera platform. Pritchett called the recent shift of attitudes on campus about online degrees a "sea change."

A significant evolution in higher education's credentialing function has been occurring for years, Gallagher says.

While the pace has been slow so far, Gallagher says the entire credentialing ecosystem could quickly transform because of advancing technology, major shifts in government funding and the coordinated actions of large employers. Such a systemic embrace of new models could lead to the sort of change that led to the creation of land-grant universities or the nation's community college system.

"If employers start to put out there as policy or practice, in a structured way, to not rely as much on degrees," he says, "that could certainly change things." ■

Credentialism, Class, Gender and Race

Most of the people interviewed for this report see great potential for alternative credential pathways to create shorter, more affordable education opportunities for working adults, a population traditional higher education has struggled to serve.

The earnings premium associated with additional post-high school education has risen substantially since 1980, according to a substantial body of scholarly research, perhaps most notably the 2008 book *The Race Between Education and Technology*, by Claudia Goldin and Lawrence F. Katz.

Yet some experts worry about credential inflation and how new forms of credentials could lack quality control while shifting responsibility to pay for job training from employers to lower-income workers, a growing number of whom are from minority groups.

The din of public rhetoric trashing traditional college degrees while encouraging potential students to “get a shorter credential instead” is concerning, says Cathy Sandeen, particularly as the nation’s demographics shift and more college students who are Latino, black, lower income and first generation take the place of full-tuition-paying white students.

It’s important to look at the context of social and economic equity when designing alternative credential programs, says Sandeen, the new chancellor of the University of Alaska at Anchorage, who previously led the University of Wisconsin Colleges and UW Extension after

working on emerging credential pathways at the American Council on Education.

The key for those programs to is provide “smooth and seamless” pathways to traditional degrees, she says. That way they “can serve a social justice mission.”

In her high-profile 2017 book *Lower Ed: The Troubling Rise of For-Profit Colleges in the New Economy*, Tressie McMillan Cottom, an assistant professor of sociology at Virginia Commonwealth University, derides what she calls the “education gospel” and the sales pitch behind the expansion of non-traditional credentials, particularly those from for-profit colleges, to meet supposed labor market shortages.

Cottom instead subscribes to credentialing theory, or credentialism, which holds that unequal distribution of jobs and access to them helps generate demand for degrees and other credentials. Likewise, technological advancements in the knowledge economy make human labor more efficient, she writes, which leads to greater economic insecurity.

“The more insecure people feel, the more they are willing to spend money for an insurance policy against low wages, unemployment and downward mobility,” writes Cottom. “Those least likely to have an insurance policy that our labor market values are people for whom higher education has always been a long shot: poor people, single parents, the socially isolated, African Americans, the working class.”

As a result, more people are being encouraged to take the risky path of racking up debt to pursue credentials from nontraditional providers, which too often fail to pay off in the job market. Meanwhile, the unemployment rate among people who hold a bachelor's degree stands at just 2 percent.

"Flexible solutions, on-demand education, open-access career training, reskilling and upskilling—these are terms that talk about inequality without taking inequality seriously," she writes.

Cottom's book focuses on high-cost, high-risk, debt-driven education offered by for-profit colleges. That sector is rapidly collapsing, however. From its peak in 2010, undergraduate enrollment at for-profits decreased by 47 percent, from 1.7 million students to 915,000 to 2016.

Yet for-profit colleges are hardly the only players in the alternative credential space, or the only for-profit ones.

Most of the last-mile training providers, intermediaries between colleges and employers, and online enablers featured in this report are for-profit companies. And while bipartisan interest builds for [deregulation](#) and funding streams that could encourage the expansion of digital and nontraditional credentials, many critics [worry that a lack of "guardrails"](#) could lead to abuse by both nonprofit and for-profit providers, particularly if more federal money flows to those programs.

In previous decades, increases in federal student aid money, the reform push for standards in higher education, the rise of occupational licensing at the state level and other factors helped drive students to seek out certificates

from overpriced, predatory institutions, Marshall Steinbaum, an economist, research director and fellow at the Roosevelt Institute, [wrote](#) last year.

"Formal and informal credentialization played a key role in driving would-be workers to acquire more debt-funded education, at all levels," he wrote. "When jobs are scarce, employment tends to go to those with the highest educational attainment, leading educational credentials to filter down to lower-paying jobs."

The problem is a broad societal one, much bigger than higher education.

Students from racial and ethnic minority groups who take on debt to pay for credentials face discrimination in labor and credit markets, Steinbaum says, and have less family wealth to lessen the burden.

"The assumption that debt-financed educational credentialization represents constructive wealth building and social mobility thus reflects a failure to comprehend the landscape of race-based economic exclusion," Steinbaum [wrote in a paper](#) published earlier this year.

Likewise, employment outcomes for nondegree credential programs are plagued by deep gender gaps.

A study New America [released in September](#) found that among nondegree credential holders, men are more likely to be employed and earn substantially more than women who hold the same type of credential. Men also are much more likely to earn the nondegree credentials that pay best and to have their employer pay for them.

Free Community College and Tracking

Steinbaum's solution to level the playing field, for both traditional and alternative credential pathways? Free public college, which could dramatically curb the debt problem.

Anthony Carnevale agrees. Carnevale, director of the Georgetown University Center on Education and the Workforce, says a free public K-14 system would help alleviate equity concerns in postsecondary education. So could federal grants for short-term training programs, which federal policy makers from both sides of the aisle are contemplating.

Part of the problem, Carnevale says, is that the current approach to K-12 in this country is almost entirely academic, leaving little room for vocational education. Yet barely more than half (52 percent) of high school graduates ever earn a postsecondary credential. With the rapid disappearance of well-paying jobs for people with just a high school diploma, that leaves few options for job seekers other than a college degree or credential.

Another challenge for alternative credentials, however, is that most Americans want their children to earn a four-year degree. Carnevale says even well-designed and affordable vocational pathways that lead to jobs, particularly those that begin with an introduction to occupations in high school, are likely to face a backlash as a form of "tracking," which is anathema in this country.

Yet free community college would reduce worries about tracking, Carnevale says. That's because a debt-free two-year degree would be available to all capable students, even ones

who begin on a vocational path in high school. And subdegree credentials presumably would be subsidized as well in a K-14 system, particularly one where Pell Grants could be used for short-term programs.

The overarching goal, Carnevale says, is to create a system of "pathways where there are no dead ends, where all on- and off-ramps lead to a job." And that could work, he says, if there was a clear, relatively seamless route to a bachelor's degree.

"The bachelor's degree has much more powerful adaptivity effects over the course of a career," says Carnevale. "There has to be a pathway to the bachelor's for everyone who wants it and can do it."

Alternative credentials' value in the job market is all over the map, says James Kvaal, president of the Institute for College Access and Success and a former deputy domestic policy adviser in the Obama White House. And short-lived fads tend to dominate the space—think MOOCs circa 2012.

Even so, Kvaal says he's open to seeing more experimentation with short-term and alternative credential pathways. "There are a lot of credentials that fall between a high school diploma and a degree."

Adequate quality control and efforts to ensure that the credentials have value beyond one-offs with employers will be necessary, Kvaal says, particularly if public money is going to flow to those experiments.

"If you're talking about investing public funds, you have to make sure it's portable," he says. ■



College Optional: Alternative Credentials and Entry-Level Jobs

Takeaways:

- Low unemployment rates and technological change are helping drive employer demand for work-based learning programs.
- Employers in growth industries are creating more short-term apprenticeships with paths to college credit.
- Some new learn-while-you-earn programs rely on prior-learning assessment and online content to issue college credit after completion.
- Data on job market demand is a necessary component when designing valuable work-based learning programs.

The collapse of the job market for [high school-educated workers](#) in the Great Recession's wake has brought urgency to employers' search for ways to find and retain entry-level hires who lack college degrees and certificates.

Large-scale solutions remain elusive. But a growing number of colleges and employers are teaming up to create new twists on short-term "learn-while-you-earn" job training programs, typically at the local and regional level and mostly enrolling small numbers of students, for now.

This category of short-term apprenticeships and online certificates tends to be noncredit. But many include options

for completers to earn college credits for what they learn—a form of prior-learning assessment that can serve as an entry point to a more traditional college-issued certificate or degree program.

Not surprisingly, the industries that are taking the lead face the biggest challenges in filling open positions. Much of the experimentation is occurring in IT, a field that is among the most relaxed about formal credentials—firms often say they don't care where a new hire learned their skills as long as they can do the work. But noteworthy new programs are springing up for entry-level employees in health care, hospitality, energy, logistics and manufacturing, among others.

“More and more employers are getting into the game, because they have to,” says Barbara Endel, a senior director at Jobs for the Future.

Nudges and sporadic financial support also are coming from states with low unemployment rates, particularly ones armed with decent data about job markets and credential production.

Colorado has been among the most aggressive and successful with alternative credentials, with a flurry of new work-based pathways to college credit emerging in recent months. Intense demand for new ways to educate, train and find workers is driving this activity. The state has an unemployment rate of 2.7 percent, among the nation's lowest, and tends to import much of its skilled labor.

Lawmakers in Colorado also have tapped relatively flush budgets to contribute meaningful seed money to alternative credential experiments, often through state and regional work-force agencies. And employers have worked closely with the state's community

college system and public four-year colleges to develop new programs.

“Colorado has been really good at having all the stakeholders at the table,” including employers, colleges and relevant state government agencies, says Jenna Leventoff, a senior policy analyst for the Workforce Data Quality Campaign, a project of the National Skills Coalition.

The state also uses good data, says Bryan Wilson, the campaign's director. Wilson says Colorado is a “leader in using a supply-and-demand analysis in shaping their efforts.”

Collaborations between employers and the state's community colleges also are aided by its relatively strong and centralized two-year college system.

“We're an integrated system, so we have common course systems,” says Nancy McCallin, who recently retired after 14 years as president of the Colorado Community College System, which enrolls roughly 137,000 students at 13 campuses and 40 locations.

Each campus has business and industry advisory groups in place that help devise new forms of credentials and training. And McCallin says the work isn't window dressing, with required quarterly meetings involving faculty members, many of whom actively work in those industries themselves.

But even with centralized coordination, leaders in Colorado say the best ideas come from the front lines. The key is spotting promising ones early and creating the right incentives to help them grow.

Joe Garcia, the system's new president, says employers used to tell community colleges: “You educate, we employ.” But employers now

SNAPSHOT

APPRENTICESHIPS IN HOSPITALITY

Credential: Registered apprenticeships with industry certifications and pathways to college credit
Creators: American Hotel and Lodging Educational Foundation, Pearson, community college partners
Consumers: Entry-level front office managers, maintenance and food service staff
Cost to Consumer: \$0

With roughly 600,000 current entry-level job openings, the hospitality industry needs to find new pipelines for talent. At the same time, the sector is looking for new forms of credentials to help front-line employees show what they can do, either to move up within a company or to find a lateral job with another employer in the industry.

“Sixty percent of hotel managers actually start in entry-level jobs,” says Shelly Weir, senior vice president of career development for the American Hotel and Lodging Educational Foundation. “So there’s lots of opportunity there.”

Several major hotel companies have been interested in developing short-term apprenticeships, having seen their success in some domestic construction trades and overseas. For example, Hilton Worldwide Holdings has a big footprint in Europe, where apprenticeships are much more common and can be successful in hospitality.

Weir says Hilton, Hyatt Hotels Corp. and Wyndham Hotels and Resorts played a major role in helping to create the industry’s new

apprenticeship program, which it successfully registered with the U.S. Department of Labor in June. The [federal registration](#) process, which many describe as balky and which can take 18 months or more, includes requirements for classroom instruction and periodic wage hikes for apprentices. Providers of registered programs may qualify for state tax benefits or federal funding, and they are able to issue a nationally recognized occupational credential to completers.

As with the new Google IT certificate, experts say that sort of brand power that Hyatt and Hilton bring is crucial to making alternative credential pathways viable.

“If Google says someone is going to be good enough for them, it’s going to be good enough” for other companies, says Paul Freedman, CEO and co-founder of Entangled Group, who adds that powerful brands like Google’s can signal “know-how and competency” across the market.

The new hospitality apprenticeship track, which took eight months to create, was developed in tandem with a similar program

SNAPSHOT: APPRENTICESHIPS IN HOSPITALITY

CONTINUED

from the National Restaurant Association Educational Foundation for food service workers. The paid job-training programs will place apprentices in jobs for two years, with a focus on management tracks. The apprenticeships are tied closely to industry certifications.

“The whole goal here is to build up bench strength of supervisors and managers,” says Weir. “Everything ties back to industry certification.”

The Labor Department provided \$1.8 million in funding for the program, the creation of which was managed by the National Restaurant Association Educational Foundation and the hotel industry foundation, with an assist from Jobs for the Future. The two foundations have been busy adding participating companies to the program, with dozens signed up already.

“That’s where the trade associations can play the best role. We can be a convener,” Weir says.

The large-scale collaboration also makes it possible for the apprenticeships to be built around competencies that can be portable across the two industries. For example, Weir says a restaurant manager apprentice at a Chili’s might be better able to make the jump to a food and beverage manager job at a Wyndham hotel after completing the program.

The two industries have a goal of enrolling 450 new apprentices per year for the next five years. The apprenticeships do not feature college course work. But as is the case with

several new apprenticeship and short-term training programs in IT, health care and manufacturing, the hospitality and food service apprenticeships include pathways to degree programs.

“We’re a very big believer in making sure these apprenticeship programs come with college credit,” says Weir.

As is the case throughout this report, the hospitality foundation tapped a well-connected partner to help broker the degree program.

The foundation turned to Pearson Education, the U.K.-based education technology company, for the pilot program it [rolled out](#) in February. Through Pearson’s AcceleratED Pathways, which employers use to manage tuition benefit programs, 10 participating hospitality companies will place employees in online degree programs offered by 300 of Pearson’s partner institutions around the world, including Arizona State University Online, Northeastern University and Rutgers University. The foundation is paying for employees to pursue those degrees without taking on any debt. And the program is open to apprentices.

Pearson’s role, Weir says, includes helping to negotiate with college partners to articulate the degree pathways for apprentices and other employees. The company also is providing back-office support and personalized guidance to participating students.

“The thing about this industry is that you don’t have to have a college degree to be successful,” says Weir. “But it’s certainly going to help elevate you.” ■

are proactively looking for work-based learning partnerships with Colorado colleges.

Noel Ginsburg left the University of Denver during his senior year, in 1980, to found a manufacturing company, Intertech Plastics, which he ran for 38 years. He says finding skilled talent increasingly became a challenge.

“The need in industry throughout the country is intense,” says Ginsburg. “The disconnect between education and industry costs us hundreds of millions of dollars.”

High School to Apprenticeship, Then College

About four years ago, while he was leading a college and career readiness commission for Denver Public Schools, Ginsburg traveled to Switzerland to study that country’s approach to apprenticeships, a path taken by roughly 70 percent of Swiss high school graduates. He thought a modified version of the model could work in greater Denver.

The result, [a pilot program](#) that just wrapped up its first year, bypasses college by hiring apprentices out of high school.

Buoyed in part by a \$5.5 million grant from Bloomberg Philanthropies, Ginsburg created CareerWise Colorado to help run the apprenticeship program. The nonprofit group acts as an intermediary between industry and Denver’s K-12 system, as well as with colleges in the state.

Students apply to participating employers in five primary career pathways—advanced manufacturing, IT, financial services, business operations and health care. For example,

a high school student might apply to be an apprentice production technician at Intertech.

Companies bring on apprentices who begin the summer before their junior year. The program features both classroom and on-the-job components. There are no forced placements, with employers picking applicants they feel will be the best fit. It’s a demand-driven approach, Ginsburg says. And each company pays \$5,000 a year for an apprentice’s training—roughly the equivalent of a federal Pell Grant.

“This is not a social welfare strategy. This is about helping companies be more competitive,” he says. “But what’s unique here is it’s also about helping young people have opportunities.”

In its first year, the program hired 116 apprentices from four Denver-area school districts. “Our objective is to create 20,000 apprentices within a decade,” he says.

The next phase of the program includes a pathway to college credits and, eventually, certificates and degrees. CareerWise has worked with participating employers to create competencies that are designed to reflect skills the apprentices will need in specific jobs, and that are in demand more broadly in the job market. Those competencies, when incorporated into dual- or concurrent-enrollment courses—college-level courses taught at high schools—could help apprentices earn college credit while on the job.

“One of the building blocks we have is concurrent enrollment,” says Ginsburg.

CareerWise has partnerships in place with Colorado State University Global, an online institution, and Emily Griffith Technical

SNAPSHOT

GOOGLE'S IT CERTIFICATE

Credential: 8-12 month online certificate program, potentially credit-bearing

Creators: Google, Coursera, Jobs for the Future, 25-plus community college partners

Consumers: Entry-level job seekers in IT support

Cost: \$49 per month, reduced by scholarships

Finding qualified candidates for IT support jobs has long been a problem for Google and its parent company, Alphabet, which employs 85,000 people.

"We were struggling to find hires. And we knew we couldn't be the only company," says Natalie Van Kleef Conley, a senior program manager with Google.

IT support is a high-demand occupation, currently accounting for 150,000 open positions in the U.S., according to Burning Glass Technologies, which analyzes the employment market. These are typically middle-class jobs, with federal data showing an average starting salary of \$52,000.

So to fill its positions and diversify its work force, Google designed its own credential—spending five years creating an online certificate program. In doing so, the company is following a long tradition set by Microsoft and Cisco, which two decades ago created certification credentials to train IT professionals on their systems. But Google has added some new twists to its certificate.

The online program it launched in January

is designed for beginners. By working eight to 10 hours per week on the five-course program, students can earn the certificate in eight months. Google offers the program through Coursera's platform and is paying through its philanthropic arm to knock the tuition rate down to \$49 per month. The company also is funding an initial wave of 10,000 scholarships for veterans of the U.S. military, refugees and low-income students who come to the program from nonprofit organizations that partner with Google.

"IT support is not just a job but a career path," says Conley, who was the product lead for the new certificate program. And the problem in finding candidates "is often an access and equity issue, rather than a talent issue."

Google designed the full curriculum for the certificate, including 64 hours of web videos, online lab work and assessments. It focuses on troubleshooting, customer service, networking, operating systems, system administration, automation and security. The content is modularized and competency based.

"Throughout the program, people will hear

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SNAPSHOT: GOOGLE'S IT CERTIFICATE

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directly from Googlers whose own foundation in IT support served as a jumping-off point for their careers,” the company said in a written statement.

Company officials are confident that the certificate will help people who earn it land jobs, in part because of the power of Google’s brand—with the thinking being that if it’s good enough for one of the world’s largest tech companies, many others will buy in to the certificate’s value.

Even so, Google brought together a consortium of more than 20 employers—including Bank of America, Walmart, Sprint, GE Digital and PNC Bank—who are interested in hiring completers. Certificate holders can automatically share their information with consortium members, Google says.

This cooperation, says Conley, is both “critical for the future of work” and a major shift for Google and other consortium members.

“Companies can think more about coming together to grow talent pools,” she says, adding, “It’s really important to diversify the talent pools.”

In its first five months, more than 40,000 learners enrolled in the certificate program, with 1,200 completing (presumably by putting in more than eight to 10 hours per week). The next step for Google, Conley says, will be to create online credentials that build on the initial certificate, creating a stackable path to advancement for employees.

The certificate doesn’t come with college

credit and is unaccredited. But Google is developing a credit-bearing option for interested certificate holders.

By working with Jobs for the Future and a growing network of more than 25 community colleges in seven states, Google is helping to integrate the certificate program into more traditional academic programs. The modularized curriculum makes it easier for faculty members to tweak and adapt it, the company says. And many of the expanding group of college partners will offer prior-learning credit to the Google certificate holders.

In addition to campus-based community college partnerships, the company is working with the forthcoming online community college in California to offer a version of the certificate. And more such pairings are in the works, including in the four-year university space.

Duke University, for example, plans to add the Google certificate program to the expanding number of online courses and bundles of courses—or specializations—it offers through Coursera. Matthew Rascoff, Duke’s associate vice provost for digital education and innovation, says respected brand names, like Google’s, can help build trust and interest in online credential programs.

“You don’t have to choose between work that you love on campus and what you think is practical,” Rascoff says. “You can do both.” ■

College. The state's two-year system and the four-year Metropolitan State University of Denver have been supportive, and more credit-bearing pathways are in the works.

"What we look for are the institutions who say yes first and do the details later," says Ginsburg, who adds that the goal is to create complementary degree programs that allow apprentices to stay in their jobs while they are enrolled in college. "We don't want them to leave."

Garcia was the state's lieutenant governor and director of its higher education department. Most recently he led the Western Interstate Commission for Higher Education. He plans to ramp up the system's job-based credential programs.

"We tend to think of apprenticeships as only being in the trades," says Garcia. "We're trying to take a more expansive view."

College Credits for Short-Term Apprenticeships

Colorado, like most states, faces a deep hole in its supply of medical assistants. The entry-level health-care profession is projected to see a nationwide increase in demand of 29 percent over the next decade. The Colorado-based Centura Health, for example, currently has 65 open medical assistant positions.

"They were desperate for a work-force solution," says Eric Dunker, dean of business, technology and work-force partnerships at Arapahoe Community College, which is located in Littleton, in the Denver metro area. "They wanted to partner with a local

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"The strategies that we think are going to be the most important are going to be statewide strategies."

Holly Zanville

Lumina Foundation

community college; they just weren't sure how."

Too often, experts say, colleges create alternative credential pathways before using job-market data and working with industry officials to make sure the demand exists for those credentials.

A common complaint from employers, says Lauren Eyster, a senior research associate at the Urban Institute who focuses on workforce development, is that the "college came to us after designing the program."

Employers, too, share part of the blame for this disconnect. Experts say support for alternative credentials from the CEO's office rarely makes it to the human resources department, which often fails to adequately explain the skills and competencies new hires will need, or that would help employees get promotions.

"The problem in the credential space is much more on the demand side than on the supply side," says Martin Kurzweil, director of the educational transformation program at

Ithaka S+R, who co-wrote a [2017 report](#) on alternative credentials and pathways. “HR offices have no idea what to do with these credentials.”

Centura was interested in a more accelerated, on-the-job version of Arapahoe’s medical assistant certificate program, which is based on 11 required courses and 36 credits. So the college worked with Centura, Dunker says, to “reverse engineer a customized program” that met the company’s skills requirements.

The final version, which Arapahoe [rolled out](#) in July, is a six-month paid apprenticeship, which the college registered with the U.S. Department of Labor. The initial cohort of a dozen students works 32 hours per week at Centura, which is paying their salaries with partial subsidies from state work-force funding sources.

“The tuition is fully paid for, and the students make about \$14 an hour as they go through the program,” says Dunker.

Creating the curriculum was a heavy lift, he says. It features mostly online content, which Arapahoe developed on Desire2Learn’s platform. Those components are noncredit and focus on material that faculty members determined was best suited for online learning, such as course work in medical coding and billing. The college also used as much open-source material as possible, to keep costs down and potentially allow other Colorado colleges to draw from the curriculum.

Medical assistant training involves hands-on work. So the apprentices come to a college location each Friday to draw blood, take samples and do other lab work. That course work is tied to credit.

Apprentices who successfully complete the program will be able to work with the college to have their course work considered through a prior-learning assessment process so they can earn a stackable, credit-bearing certificate.

“Sometimes it’s just too complicated to make it work within the credit hour,” Dunker says. “We’re just experimenting and so far so good ... We’re still getting to the same outcome.”

The college designed the medical assistant apprentice track to be replicable across the state. Dunker is optimistic that the model will be used at other Colorado community colleges, thanks in part to the system’s support. And he says the approach to customized curriculum design could work with employers in other industries, including tech, business and finance.

“A medical assistant is a medical assistant,” he says. “There are certain competencies for any medical assistant. So we’ve tried to create a core that will work for any employer.”

If Dunker and Ginsburg are successful, Colorado will soon have more opportunities for workers to earn a stackable college credential on the back end of completing a work-based learning program.

“There’s equal dignity in multiple paths,” says Ginsburg. “We’re making it more possible for people to do that.” ■

How Do Credentials Differ?

	Certificate	Certification	Degree	License
Awarded by	Education and training providers	Industry certification bodies	Education institutions	Government agencies
Awarded for	An exam at the end of a training or education course or a one-time assessment	Third-party independent assessment	Course of study	Meeting requirements
Indicates	Education/basic skills	Skill maturity	Education	Legal permission
Time to Complete	Variable, generally less than 2 years	Variable	No time limit, no renewal requirement	Variable
Time and renewal requirements	Often no time limit, no retrieval requirement	Time-limited, includes recertification	Cannot be revoked	Time-limited, renewal generally required
Examples	CNC Machinist, Global Supply Chain, Mechatronics	AWS Certified Welder, Certified Quality Inspector, Certified Supply Chain Professional	Bachelor of Science in Engineering	Electrician, Professional Engineer
Standard for accreditation	ANSI/ASTM E2659, a globally recognized American National Standard	ANSI/ISO/IEC 17024, an international and national standard	National, regional, or programmatic	State law

Source: Workcred

The Information Gap and Job-Market Data

Scholars debate whether the so-called [skills gap](#) has [been overstated](#). But few experts would contest the existence of an information gap about the meaning and value of post-secondary credentials.

Colleges, employers and students too often lack adequate information about what a credential says about its holder's skills and knowledge. And details are scarce about the value of credentials in the job market—or about the jobs themselves.

“Employers are pretty inarticulate about the skills underlying jobs,” says Michael Horn, chief strategy officer for the Entangled Group. “Employers aren't really clear about what they want.”

If there's a golden rule for creating an alternative credential (or a nontraditional degree program, for that matter), experts say it's to first get the best labor-market data possible to ensure that potential demand exists, and to work with employers to create a curriculum to try to meet that demand.

“Don't design anything without employers at the table with faculty,” says Sally Johnstone, president of the National Center for Higher Education Management Systems.

Many of the credentials featured in this report were created with the help of job-market information from private vendors like Burning Glass Technologies and Emsi or with increasingly sophisticated work-force data from some state and regional work-force organizations.

“When the data can be that prescriptive, it allows colleges to know what to do next,” says Louis Soares, the chief learning and innovation officer for the American Council on Education.

Likewise, several relatively new data projects, including Skillful and Credential Engine, are seeking to publish information about a wide range of credentials, including alternative ones, and connect those details with data on state and federal labor market outcomes. Industry associations have gotten into the action, such as the National Association of Manufacturers' recent project to use Census Bureau data to track labor-market returns.

The National Student Clearinghouse also is working on a project with a large amount of data on alternative credentials, tying student-level information to wage data. The goal of this effort, says Rick Torres, the president and CEO of the Clearinghouse, is to give colleges, employers and state lawmakers a more “holistic” view.

“We have to take a look at the learning pathways and how they're shaping up,” says Torres. “We're trying to understand, fundamentally, the use of the noncredit channels, perhaps in concert with the for-credit ones.”

Yet, for now, data collection about alternative credentials often remains incomplete or nonexistent.

“It's just new territory. It's not that they're uninterested,” says Bryan Wilson, director of the Workforce Data Quality Campaign, which in May released a [report on state-level attempts](#)

to measure nondegree credential attainment. Wilson says most states gather data on college certificate programs, particularly for credit-bearing credentials. But few track professional certifications, occupational licenses or results from many apprenticeship programs.

That could change soon, however. The campaign's report says 30 states are using labor-market data and employment and wage outcomes to create lists of "credentials of value," which they can use to decide how to spend financial aid or work-force development funds. And 26 states are using or plan to use those lists to identify high-demand industries or occupations, in part to better direct state funding to credentials that meet that demand.

Montana is the furthest ahead in this process, says Jenna Leventoff, a senior policy analyst for the campaign. She says the state is the only one to use a [statewide report](#) on labor market outcomes—both results for graduates from specific academic programs as well as supply and demand analyses—for its colleges to make informed and targeted decisions about educational offerings.

For example, Missoula College, the two-year arm of the University of Montana, is using the report's findings on regional worker shortages to develop new programs for EMTs, paramedics, dental assistants and preschool teachers. And based on the findings, Great Falls College is discussing the creation of customized programs for one of the state's largest construction firms.

In addition to Montana and Colorado, which she and Wilson say is a leader in using supply-and-demand analyses to help shape

work-force development efforts, the report praises Virginia and New Jersey for creating solid metrics to identify and track credentials that have value in the job market.

To get on the list kept by the Virginia Community College System, for example, college certification and licensing programs must be linked to skills standards that employers endorse, include an assessment or demonstration of skills, and be validated by a professional association or other relevant third party.

Wilson was generally positive about the value of data Burning Glass and Emsi scrape from online job ads. But he cautioned that research has shown that those ads skew toward jobs in IT and ones that generally require higher levels of education. The reason, he said, is companies often post generic, nonspecific ads about jobs that require less education, like a recurring, vague posting on a jobs board for machinist positions from a big manufacturer.

"They are useful for seeing what the recent trends have been," he says of job-ad data. "It doesn't forecast the future."

Tracking Credentials—All of Them

Beyond the states, the nonprofit Credential Engine and Skillful are ramping up their attempts to track credentials and what they signify.

Officially launched [last year](#), the Lumina-funded Credential Engine's [Credential Registry](#) seeks to be a centralized and "neutral" repository or database of information about all postsecondary credential programs

offered by education providers, ranging from the digital badge to the Ph.D.

“We’re looking for everything, whether it’s Title IV or not,” says Scott Cheney, the group’s executive director, referring to programs that are eligible to receive federal aid.

A [study](#) Credential Engine released in April found 334,114 credentials in the U.S., including 213,913 degree programs, 66,997 Title IV–eligible college certificates, 13,656 registered apprenticeships, 8,864 state-issued occupational licenses, 5,465 boot-camp certificates, 23 MicroMasters and 24 Nanodegrees.

Next up is a report specifically on alternative credentials, excluding degree programs, to track a space Cheney says is “exploding.” After its release, which is slated for later this year, he says, “Our number of credentials will easily go over 500,000.”

The group also is working to combine its registry with federal and other data sources that could link credential programs to wages, employment, employer preferences and labor-market value. Its goal, Cheney says, is to bring more transparency to the market.

Just as important—as well as difficult—will be Credential Engine’s ongoing attempt, led by several advisory boards and outside experts, to create an open-source [set of definitions](#) for credentials, dubbed Credential Transparency Description Language.

It makes sense to create a system of “structured data around credentials and outcomes,” says Jonathan Finkelstein, founder and CEO of Credly, a digital badging company. Finkelstein says Credential Engine is trying to be the steward of a standard language, like RSS feeds for the blogging format, which

eventually may become invisible to consumers. “It has a good shot of success.”

The organization has struck deals with work-force and education agencies in Indiana, Kansas, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, Ohio and Rhode Island. Skillful also is expanding its state partnerships, announcing in February that a bipartisan group of governors from 20 states had signed on to its network.

Created two years ago with funding from the Markle Foundation, Skillful is focused on middle-skills jobs. Microsoft and LinkedIn, the huge jobs-focused social networking company Microsoft owns, support Skillful’s work-force projects. Microsoft’s philanthropic arm, for example, has donated millions of dollars for the work, including the hiring of coaches to help job seekers network and find training programs.

Skillful uses labor market data from Burning Glass and a work-force outcome platform from BrightHive, a data technology company, to give colleges and state governments a better sense of job skills that are in demand in local areas and regions—and of the value of credential programs.

The group uses those data to answer the question of “what actually happens to people who get those credentials?” says Beth Cobert, Skillful’s CEO.

Work-Study in Columbus

Ohio’s Columbus State Community College has relied on data from Emsi and regional work-force groups to undergird its growing number of work-based degree and certificate programs.

“Data definitely helps to paint the picture,” says Jeff Spain, a supervisor in work-force innovation at the college. “We want to see where the market has changed.”

Beginning with its modern manufacturing [work-study program](#), the two-year college is creating a wide range of apprenticeship-style training and education programs with employers in the booming state capital. The associate degree tracks are designed to be stackable, Spain says, and start with two semesters in the classroom and lab, where students learn about fluid-power and electrical, mechanical and robotic systems.

After the first two semesters, students head for the next three terms to the manufacturing facilities of employer partners—including Honda, Autotool and PK Controls—where they work two days a week and study on campus three days a week. This year Spain estimates that 100 students will participate in the program, which now includes 38 high school and 30 company partners.

“It starts and ends with the employers. We focus there,” says Spain. “We confer with them on what they need, what are the knowledge, skills and abilities that they need in their employees.”

Emsi provides “evidence-based” information on the labor market, Spain says, which the college uses to help design its work-based credential programs and, in one case, to help land a related grant from the National Science Foundation.

The nonprofit Emsi in April was purchased by the Strada Education Network, a higher education and work-force-focused foundation that was previously USA Funds, a student loan guarantee agency.

Emsi taps as many labor-market data sources as possible, says Rob Sentz, its chief innovation officer. That includes data from the federal government and from millions of job postings and résumés from online profiles. The goal, he says, is to get a targeted and localized look at both the supply and demand for talent.

Columbus State Community College this fall will begin enrolling students in a new work-study degree track in computer science. That process began with a series of meetings with employers that face a shortage of IT professionals, including Nationwide Mutual Insurance Co. and Chase Bank. Spain says the college wants to prepare students to work for those companies, but also to have broad enough skills that they could get jobs elsewhere.

“The student always is at the center,” he says, adding that the college first looks to make sure that the work-study jobs it’s preparing them for are safe and well paying.

But none of that would be possible without good labor-market data.

“I do not want to bring in more students than we have opportunities for,” he says. “And I do not want to have more opportunities than we have students for. The two go hand in hand.” ■



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College à la Carte

Takeaways:

- More and more colleges are partnering with employers, nonaccredited providers and intermediaries to create online pathways to a certificate or degree.
- Affordable entry points to a traditional college credential remain more viable than noncollege credentials.
- Alternative on-ramps to degrees often are free or priced affordably for students.
- Low-cost pathways featuring nonaccredited providers and professional certifications have been slow to develop.

Many emerging forms of alternative credentials include a path to a degree or a certificate from an accredited college. But college credits often aren't the only goal for this category of credential, which is designed for the [45 percent](#) of part-time undergraduates who work at least 35 hours a week and the more than 30 million Americans who have earned some college credits but no degree.

When done well, the credentials have their own value, with students using them to get a promotion or to find another job.

Some of these alternative pathways include bundles of course work and credits, typically earned online, which students can use as an on-ramp to a degree without wasting time and money. Many seek to honor credit for prior learning or transfer credits that students bring in from previous stints at a community



college, for-profit or other institution. And some incorporate professional certification requirements in their curricula, perhaps even subsidizing the cost of those assessments so graduates can earn a certification with their college credential.

“

“Employers see the value in the right credentials, whether they’re short-term or long-term.”

Rachel Carlson
Guild Education

A common thread that runs through the most promising of these alternative pathways, experts say, is a deep collaboration between employers and colleges or noncollege education providers, often with a third party that helps broker and manage the partnership. And a clear path to credits from an accredited college should remain a priority as well, experts say.

Workers in entry-level or front-line jobs don’t need to choose between job training and college, says Rachel Carlson, CEO and founder of Guild Education, which has partnered with Walmart to help administer the debt-free online degree benefit the [retail giant rolled out](#) for its employees in May. She argues that well-designed pathways can do both.

“Employers see the value in the right credentials, whether they’re short-term or long-term,” she says. “Get rid of the false choice. Let employees earn short-term credentials that are relevant to their jobs today,” while also working toward a bachelor’s degree, which remains by far the best investment to reach the middle class.

As is the case with the Walmart program, experts say the best alternative on-ramps to degree programs are free or priced affordably, so students do not run up debt before they enroll in a more traditional program. Some accomplish this in part by existing outside the umbrella of federal regulation and accreditation, which come with costs for providers.

StraighterLine to a Degree

A new online offering from New England College, for example, allows students to earn an associate degree in professional studies—a type of professional general education credential—in as little as 15 months, with the college charging a total of \$9,900 in tuition.

That low price point is due to the private college’s partnership with StraighterLine, a pioneer in alternative credential pathways. While other would-be digital disrupters have come and gone, the Baltimore-based company has gradually built up its more than 100 college partnerships and student enrollments during the last decade, with 25,000 students taking courses from the online, unaccredited provider this year.

StraighterLine uses a subscription-based model. Students pay a monthly fee of \$99,

CALIFORNIA'S NEW ONLINE COMMUNITY COLLEGE

Credential: Short-term online, competency-based certificate programs with credit pathways

Creators: California community colleges, unions, employers

Consumers: Stranded workers seeking entry-level jobs

Cost to Consumer: \$46 per credit

California's new online community college won't offer degrees when it goes live next year.

The statewide, competency-based college instead will feature short-term credentials that are being designed to help "stranded workers" bulk up their skills to get entry-level jobs in health care, IT and other high-demand fields.

Leaders of the state's community college system, which includes 114 colleges and enrolls 2.1 million students, say the credentials issued by the new online college will be stackable and map to college credits. As a result, they should serve as on-ramps to degree programs for students who eventually want to pursue a more traditional higher education—with stackable pathways all the way to a Ph.D.

Groups of faculty members from California community colleges and system-tapped contractors are working closely with employers, industry associations and unions to develop and map required competencies for the credential programs. Those competencies will include core technical skills as well as foundational ones in literacy, numeracy and digital and soft skills, according to the system.

The resulting competencies and required learning outcomes will be granular, says Raymond Kaupp, executive director of partnership strategies at the Foundation for California Community

Colleges. That's so they can be taught in small, modular lessons—perhaps chunks as brief as 10 to 30 minutes each. The credentials will be buttressed by digital badges that signal levels of achievement within competencies.

Kaupp says the new college's curriculum developers looked at an industry association credential that featured lesson increments of more than three hours. That wouldn't work for the adult students the college wants to reach.

"Our stranded workers don't have that time," he says.

The state has budgeted \$100 million over seven years in start-up funding for the college, as well as \$20 million in annual support. Eloy Ortiz Oakley, the system's chancellor, says he expects the online college to enroll 25,000 to 30,000 students during its first three years of operation.

While that's an ambitious goal, a recent analysis found 2.5 million Californians between the ages of 25 and 34 have graduated from high school but lack a college degree—the so-called stranded workers. So the college's initial enrollment goals could be met by enrolling just 1 percent of this group.

"We're talking about scale statewide," says Sally Johnstone, president of the National Center for Higher Education Management Systems, which

SNAPSHOT: CALIFORNIA'S NEW ONLINE COMMUNITY COLLEGE

CONTINUED

last year issued a system-commissioned report on options for how to design the college.

Tuition levels have yet to be set for the new college. But Oakley has suggested that they will be similar to the relatively low price of \$46 per credit that two-year colleges in the system charge.

The first occupation targeted by the new college is medical coding, a field that's expected to grow annually by 15 percent in coming years, according to federal data. Medical coders who are union members in California make a median wage of \$32 an hour, roughly \$64,000 a year, and can make \$50 an hour during the peak of their careers.

Oakley argues that the new online college will be a better option than for-profit colleges, which currently issue 80 percent of the medical coding certificates awarded in the state.

The college was fiercely contested by faculty groups and some lawmakers in California. Likewise, several leaders of community colleges in the state criticized the move to create new online programs that would be run from a central, statewide hub, arguing that their campuses instead could meet demand for new online credentials.

Yet the online college has had the strong support of Jerry Brown, the state's departing Democratic governor. And the Academic Senate for the California Community Colleges dropped its opposition to the plan after the Legislature voted to back it in June.

A key reason the online college concept prevailed was support it received from unions and nonprofit advocacy groups that focus on equity issues. For example, the Service Employees

International Union (SEIU) in California vocally backs the college. And its education fund for 100,000 members who work in health care in the state is contributing to the medical coding program's creation.

"If we do this right, health-care workers, early-education workers, caregivers and many other workers will have the ability to advance their careers through high-quality, supportive study programs that fit their demanding schedules and that are affordable," Alma Hernández, executive director of SEIU California, said in a written statement.

In addition to medical coding, the system is working to develop online credentials for IT support professionals and first-line supervisors, with a total of 15 instructional programs currently in the pipeline.

The college won't be starting from scratch with some credentials. For example, its curriculum developers are working with Google to adapt a version of its IT support professional certificate, which the tech giant began offering on Coursera's online credential platform this year.

Kaupp says a challenge with Google's credential is that it's geared to those with more foundational learning under their belt. So the new college may create an initial phase of learning for the credential, which would be designed as an entry-level certification.

"We have a bit of a lift to do before a student could engage with their curriculum," he says.

Key details have yet to emerge about how the new online college will work. But many across higher education are watching its creation and what its success could mean for alternative credential pathways.

"The model they're developing will become the national model," Johnstone says. ■

which includes free etextbooks. Most of the 60-plus self-paced general education courses are priced at \$59, although those overseen by faculty members can be more expensive. The faculty-led version of a course on principles of management, for example, costs \$119.

“You don’t have to be a college to offer an online course,” says Burck Smith, StraighterLine’s CEO and founder. “There’s nothing special about a college online.”

When students complete StraighterLine courses, they can then enroll at one of the company’s campus partners to receive college credits for their work—a form of prior-learning assessment based on articulation agreements between college partners and the course provider. That relationship can go both ways. Western Governors University, for example, [steers underprepared applicants](#) to StraighterLine for academic development—a low-risk, low-cost form of remedial education.

New England College’s new associate degree is priced under \$10,000 because the college has agreed to accept StraighterLine courses for more than a third of the program’s 60 required credits.

Through a somewhat similar partnership, which is part of a broader experiment sanctioned by the federal government, StraighterLine is delivering up to three-quarters of the course work for two associate degree programs from the Dallas County Community College District. And more such on-ramp arrangements with colleges are in the works, says Smith.

StraighterLine reduces risk for both students and its partner colleges, he says. “Students

who prove their success prior to enrolling do better.”

High-profile partnerships between universities and nonaccredited providers have followed StraighterLine’s example. Perhaps the most notable example is the Global Freshman Academy from Arizona State University and edX, the nonprofit MOOC platform developed jointly in 2012 by the Massachusetts Institute of Technology and Harvard University.

Students can take free, ASU-designed courses on edX after paying \$49 to verify their identities. After completing the online, synchronous courses and a proctored exam—with a grade of C or better—students can pay \$600 per course (\$200 a credit) for credits from ASU, which they can apply to a degree program after enrolling at the public university or another institution. So far, students enrolled in the academy have successfully completed roughly 8,090 courses, ASU says.

Yet despite those small numbers, ASU created a new pathway to degrees for students, building on existing funnels like its extensive transfer relationship with Rio Salado College, a mostly online community college near Phoenix. And so far, at least, a low-priced online entry point to a traditional program remains a more viable option than replacing the traditional degree with a shorter-term, nondegree equivalent, as some higher education naysayers have argued.

Take MissionU, for example. The start-up attracted plenty of hype and seed money before it launched last year. The founder of the one-year, skills-based alternative to a degree, Adam Braun, called traditional higher education “broken” and a bad decision for a

majority of students. With an in-person program located near San Francisco, no up-front tuition and an income share agreement (15 percent of wages for three years from graduates who would have made at least \$50,000 annually), the company enrolled just 25 students in its fall 2017 cohort before [going belly up](#) this past spring.

The antagonistic stance Braun took toward traditional colleges was [largely missing](#) this year at ASU+GSV, the annual Lollapalooza for education-technology investment. Instead, most speakers at the event in San Diego discussed ways alternative providers and technology-focused intermediaries can best work with colleges to create alternative degree pathways.

Some of the most successful start-ups in higher education act as “enablers” for traditional colleges rather than “replacers,” says Paul Freedman from Entangled, citing 2U, the online program management company, and Guild.

The biggest technology companies appear to be taking this approach as well. Beyond Google and its new IT support certificate, [Apple](#), [Facebook](#) and [Amazon AWS Educate](#) have in the last year unveiled curricula for certificates based largely on their platforms and tools, all of which include collaborations with community college partners to develop credit-bearing pathways on the back end for completers.

“It’s not a disruptive force, it’s a sustaining one,” Freedman says of the growing number of tech-company certificate partnerships with two-year colleges.

However, the companies also are [among a handful](#) of large employers that are nixing degree requirements for some positions. Creating new credentials and changing hiring practices are responses to serious hiring challenges, both for tech companies themselves and across wide swaths of the economy. They are seeking to create talent pools for companies that use their tools but may not specialize in IT. And the tech giants are seeking a more diversified work force at the same time, as well as a public-relations lift amid increasing criticism about their power and how they use it.

“They definitely read each other’s clippings,” Freedman says.

Professional Certifications and Partnerships With Business

Yet despite the growing urgency among employers to be more proactive with colleges, experts say they often need nudges and help from third-party partners to get involved.

“It’s our job to get business off the sidelines,” says Brian Fitzgerald of the Business–Higher Education Forum, adding that the goal is to “increase the aperture of higher education.”

Fitzgerald’s group has worked on several successful collaborations between employers and colleges. For example, the forum in 2015 helped broker the creation of a joint engineering pathway with Boeing for nontraditional students in the St. Louis region.

Buoyed by a grant from the National Science Foundation, the project helps students who lack the critical engineering prerequisite

SNAPSHOT

EVERSITY'S PROFESSIONAL PATH CERTIFICATES

Credential: Short-term online "Professional Path" certificates

Creators: University of Arkansas System's eVersity

Consumers: Working adult students

Cost: \$175 per credit

The University of Arkansas System created its fully online eVersity in 2014, with a goal of removing as many barriers as possible for its adult students, who enroll with an average of 68 transfer credits from other institutions.

"College should be hard. But going to college shouldn't be," says Michael Moore, eVersity's chief academic and operating officer. "These are not dropouts. These are people with a lot of talent who for some reason ran into an obstacle."

The system created eVersity as a [separately accredited](#) institution so it could focus solely on working adults and create clear and easily navigated entry points for its degree programs. "They fill out the application. We do the rest," says Moore, adding that eVersity charges students only for base tuition rates and tacks on no fees.

At the end of last year, eVersity [enrolled](#) 456 students. Its goal is to hit 2,000 in 2019.

The institution's academic programs include some unusual features, particularly for a public university. For example, eVersity's modular courses all are six weeks long, and students take just one at a time. Its curricula feature "career competencies" that the university developed with employers, with a goal of adding real-world applications to course work. eVersity includes the competencies on its graduates' transcripts.

"Increasingly, people are looking to college for a skill that benefits them in the work force," Moore says.

The university also offers an option of an inverted degree track, in which students begin by taking the core courses for their major, then move on to general education requirements. These parallel versions of eVersity's traditional degrees are designed to get practically oriented adult students excited about the content as they progress toward a degree.

CONTINUED ON THE NEXT PAGE

SNAPSHOT: EVERSIY'S PROFESSIONAL PATH CERTIFICATES

CONTINUED

"They take almost the exact same curriculum," says Moore. "The difference is the order in which they take them."

For students who bring in a sufficient number and type of college credits, eVersity will issue an associate degree up front. The credential can give them both a boost in their jobs, Moore says, and a psychological lift. "It's a long, long slog from zero hours to 120," he says.

The university also offers short-term certificates to students with high school credentials but who are still exploring whether college is right for them. eVersity dubs this the Professional Path while its degree offerings are called the Academic Path. The certificate programs feature specific technical skills—for example, the business credentials include a six-course, 36-week certificate of proficiency for administrative office workers, as well as a 13-course, 18-month technical certificate in office management.

To help keep eVersity students motivated and on task, the institution sends them what Moore calls a "running to-do list" every Monday, Wednesday and Friday, removing completed items with each iteration.

"It's unique to each student," Moore says, adding that for most of the university's students, the goal is "about the finish line—it's not about the grade points." ■

of calculus begin by enrolling at St. Louis Community College or the University of Missouri at St. Louis, then transfer to Washington University, where they can earn bachelor's degrees in civil, electrical and mechanical engineering. Boeing contributed work-based learning additions to the curriculum for the track, employee mentors to coach students and scholarship money—all with a goal of hiring graduates, or preparing them for related fields.

The first cohort graduated this spring. “Boeing is now for the first time actually hiring people out of that program,” says Fitzgerald.

In addition to helping to develop prepackaged curricula, a growing number of employers and industry organizations are helping embed training for professional certifications in community college certificate programs.

Some states are encouraging these collaborations. Florida, for example, is spending \$10 million per year for students to be able to take assessments for industry certifications in high-demand occupations, such as IT and health sciences. Yet New America, which recently studied professional certification partnerships at community colleges, found that most of the programs have been limited in scope.

“It was always really localized—a lot of boutique programs,” says Mary Alice McCarthy, director of the Center on Education and Skills with the education policy program at New America. “In very few cases did it spread beyond a couple departments.”

That’s a common problem seen as well by Roy Swift, executive director of Workcred and the former chief work-force development officer at the American National Standards Institute (ANSI). He says a large rift remains between certification bodies and colleges.

“There are pockets of certification societies that have relationships,” says Swift. “But in general, the certification community never communicates with colleges.”

Swift blames territorialism by professional societies and college faculty members for failing to break down barriers. But he acknowledges that integrating work-based learning into college certificate and degree programs “takes a lot of work.” Swift says more pressure from employers, particularly big ones, or industry associations could help break the logjam.

Likewise, Smith, of StraighterLine, predicts slow going for the broader adoption of non-credit online pathways to traditional degree programs.

“It’s hard to award credit at scale for other providers’ courses,” he says. “There are always random acts of innovation.” ■

ANALYSIS

Competencies, the Infrastructure for Alternative Credentials

Relatively few competency-based education programs have grown beyond the boutique, with the exception of Western Governors University, which enrolls more than 100,000 students, and a few much smaller offerings from other universities. Yet competencies have become the currency for much of the experimentation with alternative postsecondary credentials.

Even highly selective colleges like Georgia Tech and the University of Michigan describe their work on alternative credentials in terms of competencies—ideally specific, granular information, backed by authentic assessments, about what a student knows and can do—rather than conventional grades.

Urgency around filling middle-skills jobs is helping to drive the focus on competencies, says Matthew Pittinsky from Parchment. But, he says, “What I don’t know is if these competency assertions will be meaningful.”

Many of the alternative credential programs that experts are watching the most closely were created through a kind of reverse engineering, where faculty members and college administrators work with employers to first understand the skills needed on the job—both the specific (hard) and less tangible (soft) variety. Broken into competencies, those skills

then are used to create course content and curricula, often featuring modularized, short-term lessons and assignments.

Without employer involvement in creating them, however, competencies fail the test of being workplace relevant.

“The credential is only as valuable as the customer of the credential says,” according to Jonathan Lau of Cengage, which earlier this year launched a Skills Map to show students competencies needed for specific job openings and steers them to online courses offered by the company’s college partners to close gaps in their knowledge. “Our job is to understand what the employer wants.”

By being more explicit about employer-relevant skills, the competency focus can help solve one of the biggest challenges for alternative credentials, which is the struggle to make them stackable and transferable from one job or employer to another. It can also help break down barriers between degree programs and professional certifications and licenses, says Karen Elzey, Workcred’s associate executive director.

“You need competencies for what it is you learn in a degree program,” she says. “It’s not just a degree, it’s experience.”

However, there's a difference between competency-based education programs, particularly the more aggressive, direct-assessment versions that are untethered from the credit hour, and the growing use of competencies as an infrastructure for alternative credential programs. Some in the field call this latter version competency-based learning.

Yet experts say the term "competency" itself remains ill defined and misunderstood, with many in higher education applying it to what are essentially broad learning outcomes, rather than the more sophisticated and specific version that can be used to create alternative credentialing curricula. And a [2015 study](#) by Parthenon-EY found scant awareness of competency-based education among employers.

At the same time, the use of competencies and even learning outcomes, which accreditors require federal aid-eligible colleges to track, remains controversial among a broad swath of the professoriate, faculty unions and some left-leaning wonks. For example, Bob Shireman, the Century Foundation senior fellow and Education Department official during the Obama administration who helped lead the crackdown on for-profit colleges, [has called](#) learning outcomes "worthless bean counting and cataloging exercises."

Johann Neem from Western Washington sees a distinction between competency-based learning and CBE degrees. And Neem is far more concerned about competency-based degrees than competency-undergirded alternative credentials.

Quality alternative credential programs can be like short-term apprenticeships, he says, a throwback model where people learn trades and relatively narrow skill sets. Competency-based degrees, however, particularly those that include a substantial number of credits for prior learning, are much more problematic for Neem.

"Let's not provide people a college degree that does not provide a college education," he says. "They're not the same thing."

The Academic Genome and the Jobs Data Exchange

Officials at the University System of Georgia have a different take on competencies and their value to both traditional degree programs and alternative pathways.

By using rapidly advancing technology and detailed competencies to map the "academic genome," argues Myk Garn, assistant vice chancellor for new learning models for the system's Board of Regents, he hopes the system can design more precise, digital and personalized credential programs.

"Competencies are the essential, elemental statements of the knowledge, skills, attitudes and behaviors students are expected to learn and demonstrate throughout, and to culminate, their educational journey through postsecondary education," he wrote in a [recent essay](#). "Mapping its academic genome transforms an institution from reliance on the anecdotal, individual implicit objectives of course- and lesson-level teaching to the

explicit—collaborative, digitally linked, aligned and evidence-based learning objectives and outcomes of a digital academic enterprise.”

The benefits of using competencies in this way, Garn says, include better alignment between assessments and course material, and between degree programs and careers, while also creating more opportunities to ensure academic rigor and quality, better student records, and more publicly available information about program outcomes.

The Competency-Based Education Network, a Lumina-funded nonprofit, has seen a big uptick of interest in both stand-alone competency-based degrees and the broader use of competencies, says Charla Long, the group’s executive director. Highly selective universities like Georgia Tech talking about competencies “certainly helps to make competency-based education more mainstream.”

But Long says much of the recent flurry of activity has come from two-year colleges and large employers.

The U.S. Chamber of Commerce Foundation is working on several projects to help employers be clearer about which competencies are needed in jobs, and to better communicate those needs to postsecondary education providers.

Technology is a big part of the solutions to those challenges, says Jason Tyszko, vice president of the chamber’s Center for Education and Workforce. He says the center is seeking to create “structured, dynamic data” about job skills.

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“It’s the hiring systems themselves that need to be solved.”

Jason Tyszko

U.S. Chamber of Commerce Foundation
Center for Education and Workforce

For example, it recently created the [Job Data Exchange](#), which the center describes as a public registry of open-data algorithms and applications that are designed to help employers and their HR functions better define competency-based hiring requirements.

“This has to be automated,” says Tyszko. “We have to fix the signals at the source.”

The center also recently created the T3 Innovation network, a group of officials from 128 colleges, other education providers, education-technology vendors and workforce organizations. Backed by funding from Lumina, the network is exploring how to use emerging technologies (including AI) and agreed-upon standards to “better align student, work-force and credentialing data with the needs of the economy.” For example, one work group [has investigated](#) existing data standards for postsecondary competencies

and credentials, with a goal of syncing up data from disparate standardization efforts.

Taken together, the projects seek to unlock the “potential for employers to hire based on skill,” rather than relying on traditional credentials, Tyszko says. “It’s the hiring systems themselves that need to be solved.”

Colleges are doing more up-front work with employers to define competencies, says Amber Garrison Duncan, a strategy director for Lumina. Some of that progress builds on partnerships that were created as part of the U.S. Department of Labor’s Trade Adjustment Assistance Community College and Career Training program, which during the Obama administration [doled out \\$2 billion](#) to consortia of two-year colleges, employers and work-force groups.

The U.S. Department of Defense also is ramping up efforts to use its licensing and credentialing policies to help veterans and service members translate their skills into workplace- and college-relevant competencies.

Perhaps most importantly, Duncan says, enormous job-market pressure caused by low unemployment rates and stagnant wages are prodding colleges and employers to be more efficient about closing gaps between post-secondary education and employment.

“We’re seeing deeper conversations,” she says, which are “really helping folks see competency as currency.” ■



Add-Ons to the Degree

Takeaways:

- Undergraduates increasingly are earning digital badges to demonstrate their knowledge, skills and abilities to employers.
- To help employers better understand badges, efforts are underway to create standardized language and “badge tool kits.”
- Project-based learning sites are partnering with colleges and employers to give students paid, low-stakes job auditions or microinternships.
- Last-mile training from a boot-camp company on university partner campuses comes with guaranteed jobs for completers.

Few viable alternatives to the traditional four-year degree exist, particularly for bachelor’s degrees grounded in the liberal arts and sciences. But students increasingly are earning short-term, noncredit credentials while they are enrolled as undergraduates in traditional degree programs.

This category of skills- and work-based microcredential includes digital badges, eportfolios, project-based learning and boot-camp certifications. Their appeal is allowing students to demonstrate to employers what they know and can do by including clickable links to evidence of learning. A lack of confidence about what college degrees and conventional grades say about a graduate’s skills is contributing to interest in these credentials.

But that only works if employers are aware of the credentials' existence and can understand and trust what they indicate.

“Great ideas in theory,” Michelle Weise, senior vice president of work-force strategies for Strada and chief innovation officer for the group's Institute for the Future of Work, says of digital badges and other microcredentials aimed at undergraduates. “Are they actually going to be validated in some way by the employers?”

Major players in the digital badging space include Credly, Mozilla's [Open Badges system](#), which the IMS Global Learning Consortium has managed since last year, and Concentric Sky's Badgr, an open-source credentialing platform. A wide range of colleges and companies use these platforms to issue verified digital credentials, which are designed to include publicly viewable data about their holders' knowledge, skills and achievements—“KSAs” in badgespeak.

“There is a need and desire among academic institutions to do a better job at communicating about what is assumed about a college education,” says Jonathan Finkelstein, Credly's founder and CEO.

Badge issuers, say, a faculty member at a college, or an employer, can use the platforms to create new types of badges, including criteria for recognition and embedded metadata on learning and achievement, testimonials, conditions for revocation, and alignment to industry standards.

“Putting evidence in the badge—that's what badges do and conventional credentials do not,” says Daniel Hickey, professor and program coordinator with the Learning Science

Program at Indiana University at Bloomington.

For example, students in the honors program at Illinois State University can earn a [wide range of badges](#) on the Credly platform. Administrators at the university call the microcredentials a form of “three-dimensional transcript” that augments the traditional degree. Available categories include badges for studying abroad, earning scholarships, completing research projects or making the dean's list.

Credly has been growing, and in April it acquired Pearson's Acclaim badging business for an undisclosed amount. Finkelstein (see his digital badges [here](#)) describes the purchase as a market consolidation that broadens Credly's offerings by adding Acclaim's focus on “capital-letter” skills people would include in a résumé—earning a certification from the Project Management Institute, for example—to the more “lowercase” soft skills typically captured by Credly badges, such as a badge that signifies and gives evidence about the holder's experience working on projects.

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“Putting evidence in the badge—that's what badges do and conventional credentials do not.”

Daniel Hickey

Indiana University at Bloomington

SNAPSHOT

BROWARD COLLEGE'S EMBEDDED CERTIFICATIONS

Credential: 40 competency-based degrees with embedded industry certifications

Creators: Broward College, industry associations and employers

Consumers: Working adults with job experience but no college degree

Cost to Consumer: \$131 per credit hour with no fees for certifications

Many community and technical colleges around the country [embed industry certifications](#) into some of their degree and certificate programs. Yet those offerings typically are limited to a few boutique programs and rarely are available to broad numbers of students, New America found in a recent report.

Florida's Broward College, however, has created a state-subsidized approach for embedding certifications in a wide array of degree programs, according to the think tank, which encourages colleges and states to take a look at the Broward model.

"If you really want to do this at scale, this is how you do it," says New America's Mary Alice McCarthy, a former official at the U.S. Departments of Labor and Education. "Their numbers were just off the charts."

Nondegree industry certifications, like those offered by Microsoft and Cisco for IT workers, can be valuable in the work force. For example, labor market data from Burning Glass and Emsi show a \$9,000 average annual wage premium for automotive mechanics who hold

the National Institute for Automotive Service Excellence (ASE) certification.

Typically developed with input from professional associations and including a formal assessment of skills, certifications can reduce hiring costs for employers by eliminating some of the risk that new workers lack critical skills.

"Building a certified work force should help a local economy reduce friction between employers," New America said in the report, "and even attract employers in search of specific, verifiable skills."

Yet relatively few Americans hold certifications, and their use is inconsistent across industries—just 2 percent of online job postings for sales positions require one, compared to 18 percent of computer-related job listings.

Certification examinations or assessments often cost hundreds of dollars. A 2016 Lumina Foundation [survey](#) found that these exam costs were the biggest barrier to the wider embedding of industry certifications into community college academic programs.

SNAPSHOT: BROWARD COLLEGE'S EMBEDDED CERTIFICATIONS

CONTINUED

Broward stood out in New America's research on how colleges can do a better job of offering a wide range of valuable industry certifications. More than 40 of the college's competency-based degree programs (at both the associate and bachelor's levels) embed certifications, in fields such as automotive, aviation, health care, supply chain management, maritime engineering, public safety and insurance and risk management. In the most recent academic year, New America says Broward awarded 1,349 industry certifications to students who were enrolled in degree programs.

State funding has helped, the report concludes. Florida reimburses colleges up to \$1,000 for each examination taken by students who earn specific industry certifications. New America says the number of certifications Broward students earned and that the college paid for increased to 1,349 from 148 in 2014, when the state subsidies began.

Florida's state government also does a good job of vetting the 300 certifications it deems worthy of reimbursements, according to New America, including a gauge of demonstrated demand from employers. Even so, the think tank applauds Broward for taking the ball and running with it.

For example, the report says Broward's then president in 2014 decided to direct state reimbursement money to the programs that deliver the related degrees—one of several

enticements for embedding certifications. The college also expanded its on-campus testing centers so they can provide as many certifications as possible on-site and during wide time windows.

The information technology department at Broward, for example, offers boot camps so students can study and practice together for certification exams. Last year, during one weeklong boot-camp session, students in the department earned 90 certifications.

While Florida's example on embedded certifications is worth emulating, McCarthy says colleges in the state are not immune to the challenge of inadequate or nonexistent student-level data about who holds certifications and how these nondegree credentials affect employment and earnings.

"Finding a secure way for certifying bodies to share individual-level data with colleges and state education agencies is critical for building support for the practice," the report says. ■

“The capital-case letters get you interviews,” Finkelstein says. “The lowercase ones get you jobs.”

IBM is a partner with its digital badging program for employees, which runs on Acclaim and is offered on Coursera’s platform as well. And as of last year, IBM employees can use digital badges to earn advanced-standing credit from Northeastern University for its professional master’s degrees in project management and data analytics, among other programs.

Besides IBM, other corporate badge issuers on Credly include insurance and financial service companies. These large employers face the challenge of defining badged skills consistently across their various divisions, experts say, a problem that also affects the portability and usefulness of badges across different employers or industries.

Matthew Pittinsky, CEO of Parchment, a digital credential and transcript company, says the tremendous amount of variation among badges and noncredit certificates can obscure their value.

“I do worry about a tower of Babel,” he says, “if there isn’t a way to understand what’s behind it.”

Credly has teamed up with the nonprofit Education Design Lab to try to separate signal from the noise. The lab spent three years creating [standardized forms for eight badges](#) on 21st-century skills—in areas such as creative problem solving, oral communication and intercultural fluency—with a pilot group of 12 universities and 50 employers. The goal was to agree on a process for assessing, recognizing and badging skills that employers would value.

For a phase two, the lab is working with Credly to help six colleges use this “badge tool kit” with employers that have agreed to give students who hold the badges a first look when they apply for jobs. Finkelstein describes the lab’s standardized badges as a “library of credentials,” which he hopes a wide range of employers, colleges and other education providers can use.

“Let’s recognize them in a consistent way with a common credential,” he says.

Indiana University is working to incorporate the design lab’s badge standards into its work on digital credentials. And Hickey says colleges are wrong to dismiss digital badges as a fad, despite their relatively slow uptake by employers. He [compares this phase of badging](#) to the early years of ecommerce, when crowdsourced product reviews began to enable the industry to take off.

“It just took time,” says Hickey. “I don’t know if badges are going to be the technology to do it, but some form of digital credentials will [take off]. How could they not?”

Beyond badges, Southern New Hampshire University is among a group of institutions that are experimenting with blockchain, an incorruptible and public digital ledger, to help students better secure and use digital credentials.

“This is piloting what a modern transcript would be: digital, portable, owned by the student, can be verified using the encrypted assets,” Colin Van Ostern, vice president of work-force solutions at SNHU, said in a [written statement](#) about the university’s blockchain experiment.

SNAPSHOT

GENERAL ASSEMBLY'S HIRING ASSESSMENTS

Credential: Standardized, skills-based assessments in data science and marketing

Creators: General Assembly, standards boards of corporate executives

Consumers: Job seekers, employees seeking a promotion or job change

Cost to Consumer: TBD

General Assembly is by far the largest of the coding and skills boot-camp providers, a space that has been buffeted by consolidations and closures in recent years after receiving plenty of hype as a possible alternative to college.

Instead of being an option to bypass college, however, boot camps tend to cater to relatively wealthy graduates of four-year universities. With tuition rates averaging roughly \$12,000 and program lengths of 14 weeks or so, the nonaccredited educational providers offer intensive skills-based “last-mile” training for students in web and software development, data science, and other technology-oriented fields, with a smaller number of offerings in business.

As a result, boot-camp certificates are an alternative credential, but much more of an add-on to the traditional degree than a possible replacement. However, a new push by the biggest company in the sector, General Assembly, could contribute to an emerging

front in alternative credentialing: hiring based on assessments.

Founded in 2011, the New York City-based General Assembly at times has accounted for more than half of the total enrollment for the sector, which Course Report estimates will produce slightly more than 20,000 graduates this year. Roughly 50,000 alumni have graduated from General Assembly's 20 campus-based and online programs, which focus on technology but include offerings in digital marketing, project management and visual design, among others. The company also runs short-term employee skills training for its corporate partners, including IBM and Capital One.

Earlier this year, after several of its competitors had folded or merged, General Assembly was purchased for \$412.5 million by the Adecco Group, a major temporary-staffing firm based in Switzerland.

For four years General Assembly has offered

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SNAPSHOT: GENERAL ASSEMBLY'S HIRING ASSESSMENTS

CONTINUED

assessments to its corporate partners, with 40,000 employees and students having taken them. Now the boot-camp provider has convened groups of corporate executives and experts to form standards boards in data science and marketing. Members include executives from Spotify, Bloomberg, Calvin Klein, *The New York Times*, Booz Allen Hamilton, Google, Nielsen and others.

“You’ve got a very small number of companies that really dominate the talent game,” says Kieran Luke, general manager of assessment and credentials at General Assembly.

The goal of the boards, General Assembly says, is to develop clear, unbiased standards that define and validate skills that are needed to work in those rapidly growing job areas.

“Titles like ‘data scientist’ and ‘digital marketer’ are used broadly to describe a varying range of skill sets and functions,” the company says. “Without consistent language and standards to define these specialized fields, friction reduces work-force mobility.”

General Assembly plans to use standards created by the boards to then work with industry organizations to develop skills-based assessments that companies could use to screen and hire job seekers.

Recent studies [have shown](#) that three-quarters of large employers use personality and aptitude tests as part of their external hiring processes. And that number is expected to grow. But hiring based largely (or entirely)

on an industry-developed skills assessment remains rare. One reason for caution: employers face legal risks if they can’t prove that the skills being measured are required on the job. And tests can violate [federal discrimination laws](#) if they are used to disproportionately exclude groups of people based on race, sex, age or other protected categories.

Once General Assembly’s boards create the standards, Luke says the plan is for participating employers to both screen for potential employees and to “source” for them by automatically granting interviews to job seekers who do well on the tests. He compares the planned assessments to the Graduate Management Admission Test (GMAT) for M.B.A. programs. “But instead of testing esoteric skills, it’s testing for job-specific skills.”

Besides standardized assessments for data science and marketing, the company is looking to expand into web development, project management and perhaps product design, Luke says, with other possible areas on the horizon.

“The ultimate prize is a wide set of employers accepting that as a new standard,” Luke says of the data science and marketing assessments. “Companies need armies of these people, and everyone in a company needs some of these skills.” ■

Unbundled Microinternships

Education Design Lab's collaboration with Credly is aimed primarily at underserved student groups, to try to help them get a foot in the door for their first job. So is the short-term, project-based learning offered by Parker Dewey.

Jeffrey Moss founded Parker Dewey during a second stint in finance, after having worked at Educational Testing Service, the non-profit giant that issues the Graduate Record Examination and other assessments. His idea for the Chicago-based company came when he was considering the elimination of an internship program at his private equity firm.

Motivated students who lack an elite academic pedigree too often get filtered out of internship program searches, Moss says. And students from highly selective colleges often were quickly washing out of internships at his company.

"Why can't we unbundle the internship?" Moss thought, by creating a low-risk audition that got applicants out of their comfort zone while exploring different jobs and careers. But "no one was doing it."

So Moss created Parker Dewey, which allows employers to easily post short-term, digital projects for interested applicants who are undergraduates or recent graduates from partner colleges. The company also focuses on nonwealthy students who attend public and less selective private institutions. "It has to work for all three stakeholders and be without friction," he says of the model. "Unless you understand all three in depth, it's hard to make it work."

Participating employers can post a project within three minutes. Examples, Moss says, might be conducting market research on content management systems, writing blog items or identifying key influencers on healthy food issues. The company sets a fixed fee (no haggling over hourly rates) and due date and includes a couple of basic questions about how applicants might tackle the task.

The questions screen out carpet-bombing applicants. Those who are selected get paid for completed projects while also making professional connections and getting a project-based skill to add to their résumé. Payments for projects available on the site range from about \$200 to \$800, with estimated time commitments of 10 to 40 hours, so pay comes out to \$20 to \$30 per hour. Parker Dewey tacks on relatively small fixed fees and does not charge membership or contingent fees. The site features more than 100 microinternships at a time, and Moss anticipates that employers will post at least 2,000 unique projects per month in coming months.

"It's really simple. Everything flows through us," says Moss. "These microinternships go on continuously."

The first university partners Moss enlisted to get the word out to their students were local ones, including National Louis University, Illinois Institute of Technology and Dominican University. Weise, of Strada, says she likes that Parker Dewey started by focusing on "students who have less access to social capital" for its project-based experiential learning experiment.

"It's a great way to take a low-stakes bet on a new hire," she says, pointing to similar models from Labor X and Level Up America.

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“There is a need and desire among academic institutions to do a better job at communicating about what is assumed about a college education.”

Jonathan Finkelstein

Credly

Word about the projects spread organically, Moss says, and Parker Dewey began seeing applicants from other universities, some of which the company subsequently signed up as partners. These institutions get reporting on outcomes from the company, including ratings on student performance from employers.

Purdue University signed up, specifically its College of Liberal Arts. While Lori Sparger, the college’s chief operating officer, says there are “many currents pushing against the liberal arts” in society, executives like hiring liberal arts grads because of their broad skill sets—even advanced manufacturing companies, for example. But HR departments too often underestimate the value of a philosophy major, she says, arguing that Moss’s company helps break down that wall.

“What Parker Dewey can do for our students is to let them dabble,” says Sparger, to get some real-world experience while trying to figure out “not just what they want to do, but what they could do.”

Purdue has encouraged alumni to post projects on the site. And the university plans to create a campus student representative

position to work on the expanding collaboration with Parker Dewey. “The platform is easy to use for us,” she says. “It’s easy from a student perspective.”

Training for the Last Mile

Purdue isn’t the only four-year university to team up with outside vendors to help liberal arts students get work experience and jobs. A group of 18 universities so far have partnered with Revature, for example, a company that serves as both a university-sanctioned coding boot camp and a job-placement service for students.

Revature has five training centers around the country, including ones located on or near campuses at the University of South Florida, the University of Texas at Arlington, West Virginia University and the City University of New York, as well at Revature’s Virginia headquarters.

Undergraduates or recent graduates who are accepted to Revature’s 12-week coding program do not pay any fees, and neither do the company’s university partners. Employers

foot the bill, with the payoff being a relatively risk-free supply of hires.

The program is open to liberal arts students. Completers earn certifications and, more importantly, are guaranteed a job after completing and being assigned to Revature client projects. Participants must agree to accept the jobs and relocate for them, many of which are in IT roles at large companies that aren't tech focused, per se, but have plenty of software development needs. Walmart, Wellcare and Duke Energy are partners, for example. Annual pay among Revature's graduates ranges from \$45,000 to \$65,000, according to the company.

Ryan Craig's firm, University Ventures, is an investor in Revature, which he describes as a form of so-called last-mile training, which outsources entry-level hiring to reduce risk to companies and job seekers.

"They're employer facing from the start," he says, calling the company the "first scalable solution we've seen."

Revature placed almost 150 graduates from the University of South Florida in jobs prior to the announcement earlier this year of the creation of its campus-based learning space. The company says it will invest \$20 million in the Tampa hub, with a goal of training 1,300 software engineers.

One motivator for USF is that Florida's state government ties some of its state support for public universities to performance indicators such as graduation and job-placement rates.

"We look at this as a student success initiative," Paul Dosal, the university's vice president for student affairs and student success, says

of the work-force payoff of the Revature partnership. "We want to make sure that the degree they get here helps them." ■

ANALYSIS

Short-Term Pell Grants, Deregulation and Alternative Credentials

One reason for the growing interest in alternative credentials among investors, employers and educators is that the odds are growing for federal and state governments to begin making billions of dollars in aid available for short-term postsecondary programs.

The lure of those potential government subsidies, on top of employers increasingly paying for alternative credential programs, is helping to grease the skids for more private investment.

At the same time, the Trump administration and congressional Republicans are pushing deregulation to help encourage the creation of more alternative credential pathways, including changes to rules that govern accreditation, the credit hour, faculty interaction with students in online programs and the outsourcing of academic programs to nonaccredited providers.

If the rule rewrites and new funding streams go into effect, some experts fear a resulting explosion of new, federally subsidized credential programs that are not adequately regulated. The Trump administration already has rolled back rules aimed at for-profits and vocational programs. And the worry with deregulated, federally subsidized short-term programs is that bad-actor providers could saddle low-income adult students with debt

and credentials of questionable job-market value—a reprise of the excesses of the for-profit sector during the boom that followed the Great Recession.

For example, a former for-profit college official who asked not to be identified says some updates to federal aid rules could spur the growth of needed, high-quality alternative credentials—particularly if changes occur in regulations around how aid is disbursed for programs that don't operate on a standard academic calendar.

Yet the official predicts that a new stream of federal money in an overly deregulated environment would lead to a gold rush mentality among some education providers—traditional for-profit colleges, nonprofits with large online programs, or new hybrid versions, particularly holding companies with converted nonprofit colleges and profit-seeking online program management divisions—that would jump into the market with shoddy credential programs.

The key to avoiding this outcome, say the official and several other experts, is ensuring that adequate regulatory “guardrails” are in place to prevent abuses with short-term and other alternative postsecondary education models.

“It’s important to have that quality check,” says Julie Peller, executive director of Higher Learning Advocates. Peller worries about

the “waive it all and let many flowers bloom” approach. Instead, she argues that policy makers can encourage the sector’s growth without opening the floodgates to fraud or questionable credentials. “You can do that with quality control.”

Short-Term Pell on the Way?

Bipartisan interest in opening up federal Pell Grants to shorter-term programs is helping fuel investment in alternative credential programs, many observers say.

Under current law, major federal grants for low-income students cannot be used to pay for academic programs that are shorter in length than 600 clock hours or 15 weeks. But congressional Democrats and Republicans have backed proposals to expand Pell eligibility to shorter job-training programs, such as a minimum cutoff of 150 clock hours of instruction time over a period of at least eight weeks.

The first-draft attempt by GOP members of the U.S. House of Representatives to rewrite the law that oversees federal financial aid—the [currently stalled](#) PROSPER Act proposal from Representative Virginia Foxx, the former community college president and chairwoman of the House education committee—would shorten minimum program length requirements for Pell. The Trump administration also backs short-term Pell, saying the grants could result in more people getting jobs in the booming construction industry, as well as helping aspiring auto mechanics and office managers.

With support from the influential Business Roundtable and other employer-focused groups, as well as community colleges, the National Skills Coalition and bipartisan backing in Washington, many say short-term Pell is an inevitability. But that could change if Democrats take back Congress, as support is less solid on that side of the aisle.

Increased funding eligibility for the Pell Grant program almost certainly will come at a cost, however. If billions of dollars are diverted to short-term training, some predict that maximum grant award amounts for Pell will stagnate or be cut. That could hurt students, who might have to take out more loans to make up the difference between the grants and tuition levels, particularly at private non-profit colleges.

Likewise, some experts say students who tap Pell Grants to pay for short-term training and later enroll in degree programs will burn through the 12-semester (or six-year) limit on accessing the grants before they can earn a degree.

The Institute for College Access and Success [has written](#) that minimum length requirements were added to the Pell program to protect students and taxpayers from “unscrupulous, low-quality education providers,” and that lawmakers should consider that history before making any changes.

Pell Grants currently may be used only at accredited colleges that are eligible to receive federal aid. TICAS warns against changing that requirement for short-term grants. “We strongly recommend against opening up Pell

Grants to any entity that does not meet current institutional eligibility requirements for federal aid,” the group has said.

Using government funds to finance alternative credentials might accelerate their spread—for good or ill. But in the meantime, new private financing options are emerging, most notably income-share agreements, or ISAs. The [agreements replace borrowing](#), as students agree to repay a portion of their income after graduation for a set period of time in exchange for a provider waiving tuition fees.

ISAs are particularly popular among coding boot camps. But a [handful of traditional colleges](#), most notably Purdue University, are experimenting with waiving up-front tuition as part of income-share agreements. And the approach is popular among lawmakers, particularly Republicans, who like the idea of education providers having “skin in the game,” or sharing the risk if their graduates struggle in the job market.

Negotiated Rule Making on Accreditation and Innovation

Some experts question the need for short-term Pell. Others say it could help encourage the creation of more of the sort of alternative credential programs that this report examines, such as boot camps, bundles of online courses or short-term apprenticeships.

Yet to be eligible for federal aid, these programs must be administered by accredited colleges, which cannot outsource more than 50 percent of an educational program to a nonaccredited provider.

That could change as part of a [negotiated rule-making session](#) the Trump administration plans to begin next year. The plan for the session, says Diane Auer Jones, the Education Department’s principal deputy under secretary, is to “rethink” higher education and encourage innovation by rewriting rules for accreditors and for online and competency-based postsecondary programs.

On the agenda is the 50 percent outsourcing rule. Jones says the discussion will draw from lessons learned in the ongoing [Obama-era EQUIP program](#), which waives outsourcing requirements for a small group of partnerships between accredited colleges and noncollege providers, including ones featuring StraighterLine and the Dallas Community College District, and GE and Northeastern University.

The EQUIP experiment got off to a slow start. But Northeastern and GE have enrolled 17 students in the initial cohort for the co-developed accelerated bachelor’s degree program in advanced manufacturing systems, with a new group of students enrolling this fall. GE employees at two of the company’s facilities have enrolled in the work-and-learn track, which can be completed in three years, or less for students with prior college experience.

“We have GE instructors side by side with our own faculty,” says Kemi Jona, associate dean of undergraduate programs at Northeastern. Jona says the program’s creators designed the degrees to be applicable to jobs outside GE. “They wanted this to not be a GE-specific degree. They wanted this to have value in the marketplace.”

To get the green light from the department, EQUIP partnerships had to include a third-party “quality assurance entity.” These organizations are tasked with assessing the programs as if they are a different type of accreditor. The Council for Higher Education Accreditation is the quality assurance group for the StraighterLine partnership, and the American Council on Education is part of the GE collaboration. Both could learn lessons that might apply to alternative credentials more broadly.

Beyond EQUIP, nonaccredited providers are eligible to receive a limited amount of federal education benefits for postsecondary education programs through the Forever GI Bill, which was [signed into law](#) last year. The [update and expansion](#) of the Post-9/11 GI Bill includes a \$75 million pilot program that will allow veterans to use their benefits to attend technology training programs offered by boot camps and other noncollege providers.

If the Education Department ends up dropping the rule against outsourcing more than 50 percent of academic content, it could have a big impact on both alternative credentials and online enabler companies.

Likewise, the department’s rule-making negotiators will also consider changes to the [rules that require](#) “regular and substantive” interaction between faculty members and students. Those requirements can be challenging for online, competency-based education programs.

An [audit released](#) by the department’s Office of Inspector General last year found that Western Governors University was not in

compliance with the standard, mostly due to the unbundled and disparate roles of its layers of faculty members and coaches. The audit recommended a \$713 million fine and that the department label WGU a correspondence course provider. The department is highly unlikely to follow those recommendations, given that Western Governors enjoys broad bipartisan support and is generally well respected for the outcomes of its degree programs. As a result, negotiators for the rule-making session have been tasked with discussing an update to the regular-and-substantive standard. Dropping it entirely is a possible result of the session.

The federal negotiators also will review the credit-hour standard, which the Obama administration defined in 2010, after the [inspector general found](#) that colleges at times overstated the value of credits to tap in to more federal student aid. Jones says the standard should be dropped to make it easier for the broader adoption of competency-based learning.

“The credit hour probably interferes with innovation almost more than anything,” she says. “Most educators believe we should go back to the way we did it for 100 years where institutions determine what the credit hour should be and justify it to their accreditor.”

The administration as part of its rule-making session also plans to take an expansive look at the role of accreditors. Some observers wonder if the session might open the door to a new form of quality control, perhaps a national accreditor that focuses specifically on short-term and alternative credential programs.

Several experts worry that the deregulation push in Washington will go too far.

“The sessions have the potential to help the movement,” says Charla Long from the Competency-Based Education Network. While she says the network is cautiously optimistic that the rule making will be helpful to the expansion of competency-based and alternative credential programs, she is concerned about the possibility of “throwing out regulation” without adequately assessing risks.

“The last thing we want to see is learners to be hurt,” says Long.

Spiros Protopsaltis is an associate professor and director of the Center for Education Policy and Evaluation at George Mason University who has [written critically](#) about the Trump administration’s plans. He asks whether regulation is really impeding innovation on alternative credentials, and whether it’s really the rules that should change—or the institutions, like WGU, that are out of compliance.

Even so, Protopsaltis, who was an official at the Education Department during the Obama administration and also served as a Democratic staff member for the U.S. Senate’s education committee, isn’t particularly worried about WGU’s behavior in a less regulated environment, pointing instead to the risk posed by upstart providers that could emerge to tap in to federal money.

“They always talk about the good guys” when considering the impact of cutting regulations, he says. ■

Alternative Graduate Credentials

Takeaways:

- Alternative credential options are expanding fastest in the graduate education space, with enrollments in a handful of programs now topping 1,000 students.
- Selective universities are offering online alternative credentials (both short-term and full master's versions) on MOOC platforms and with OPMs.
- The first wave of MOOC-powered online master's degrees typically are less than half the price of their conventional counterparts.
- MOOC courses and short-term credentials can be a low-stakes entry point or admissions funnel for master's degree programs.

Most of the action around alternative credentials is occurring in online graduate programs. This is the segment of higher education that may be particularly ripe for disruption, in part by some of its most established universities. MOOC providers and online program management companies are the catalysts, with selective universities and corporations adding their powerful brands to the mix.

Universities are offering an increasing number of verified, short-term, noncredit credentials on MOOC platforms, which can be stackable admissions funnels into degree programs, featuring retroactively issued credits for prior learning. Early [research](#) shows



“

“MOOCs for us were about extending our reach with life-long learners. But from the beginning, we knew that wasn’t the endgame.”

James DeVaney
University of Michigan

that edX [MicroMasters](#) and Coursera [Specializations](#) and [MasterTrack](#) certificates can help their holders get jobs or promotions. (Udacity’s [Nanodegrees](#), while similar bundles of online courses, are offered with corporate partners or by the MOOC provider, rather than by universities, and lack the potential credit component.)

A major OPM company, 2U, also has moved into alternative credentials. In May 2U [bought GetSmarter](#), a provider of short online courses, which 2U now offers through partnerships with MIT; the University of California, Berkeley; a South African university and others. GetSmarter’s graduate-level courses are aimed at working professionals, who can earn a verified noncredit certificate from partner institutions.

Universities also are rolling out new alternative versions of full-on, credit-bearing master’s degrees.

The online degrees, offered on MOOC and OPM platforms, typically are priced much lower than their campus-based equivalents, feature fewer prerequisites for admission and are designed primarily for adult students who are looking to move up in their careers. To some experts, those degree tracks offer the promise of finally [bringing down prices](#) in online education, without diminished academic quality.

“The most significant innovation that’s happened,” says Sean Gallagher from Northeastern, “is what I call these hybrid degrees, because it really does bend the cost curve.”

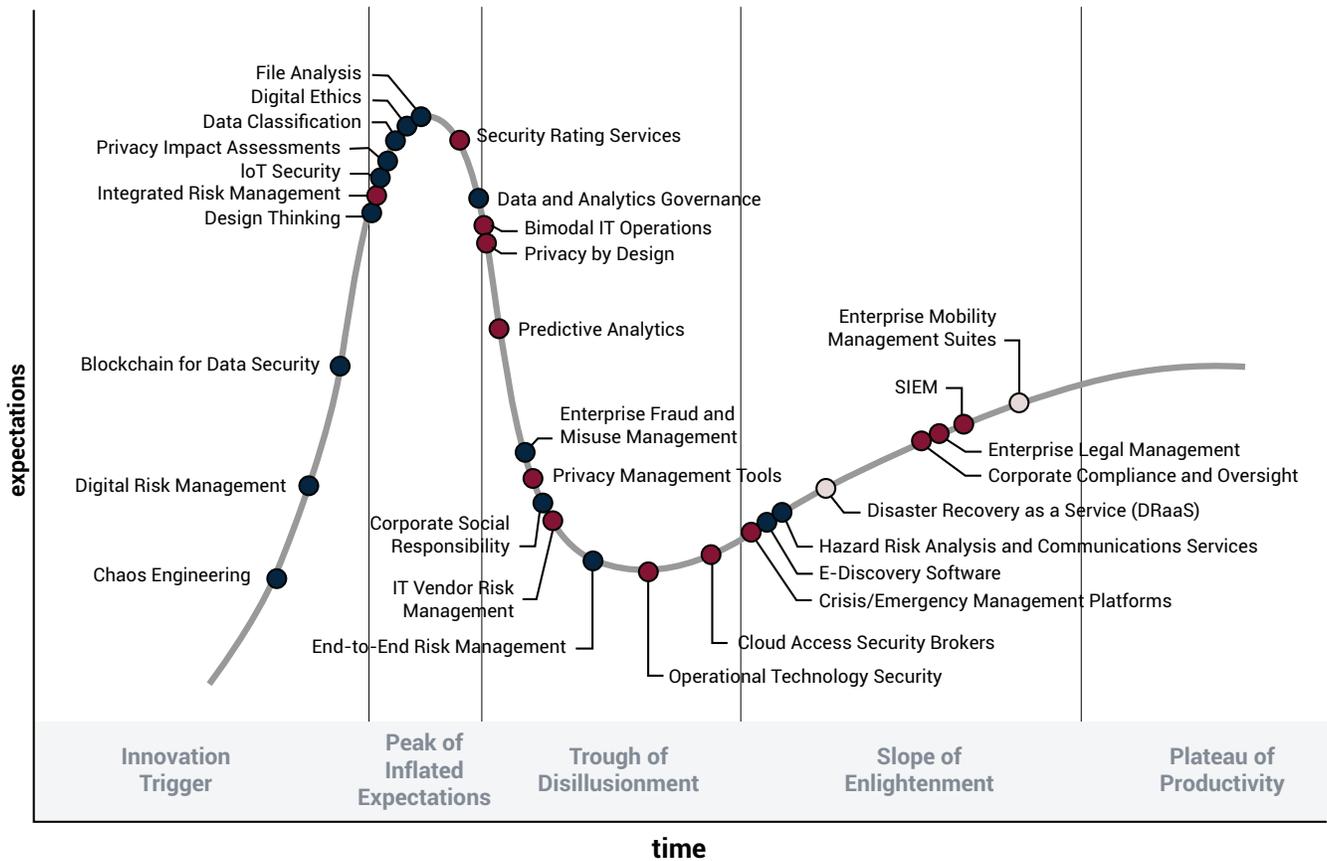
Fully online bachelor’s degrees from selective universities in the U.S. have yet to emerge. But observers predict an initial batch of MOOC-powered versions may be on the way soon.

Two years after creating its MicroMasters program, edX and 30 of its university partners offer 51 of the short-term credentials. More than 2,000 students have earned those credentials. In addition to its established online master’s degree in analytics from Georgia Tech, the nonprofit edX plans to soon add another dozen or so relatively low-priced online master’s degrees with its university partners.

Coursera now offers 11 fully online university master’s degrees on its platform, with more in the works, as well as 300 Specializations and three live MasterTrack certificates. And some experts predict that Coursera is just getting started with online, credit-bearing graduate credentials.

“They’re going to dominate the market,” Judith Eaton of CHEA says of Coursera, adding that

Figure 1. Hype Cycle for Risk Management, 2018



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Source: Gartner (July 2018)

the profusion of new online graduate credentials is part of a “fundamental transformation” of higher education.

A New Phase for MOOC Platforms

That sort of talk about a MOOC-fueled revolution may seem risky.

Remember 2012, “[the Year of the MOOC](#)”? Or the [prediction](#) that year by Udacity’s co-founder Sebastian Thrun that in 50 years

only 10 institutions of higher education will be left in the world, and Udacity has a good chance of being one of them?

Those predictions were widely mocked, and the hype for MOOCs largely faded.

Now many experts say MOOC platforms have viable business plans in place and appear to have emerged from the “trough of disillusionment” and moved into the “slope of enlightenment” in the [hype cycle graphic](#) from Gartner, a research and consulting firm.

For one thing, the new alternative credential

SNAPSHOT

GEORGIA TECH AND LIFELONG LEARNING

If Rafael Bras is right, future generations of students at the Georgia Institute of Technology will never say “I got out” after graduation. Instead, he says, they will happily say, “I’m forever in,” while regularly upgrading their skills and knowledge with a wide range of alternative credentials—perhaps studying at remote locations—that the public university plans to create by 2040.

Bras, Georgia Tech’s provost and executive vice president for academic affairs, is helping to spearhead the university’s plan to create a true form of “lifetime education” through its Commission on Creating the Next in Education. And while Georgia Tech may be the prestigious research university with the most aggressive approach to retooling around lifelong learning, others aren’t far behind, including Duke University, the University of Michigan and MIT.

“We’re not unique,” he says, though “I would like to think that we’re in the forefront in thinking creatively and responsively.”

Many observers felt that Georgia Tech’s 2013 launch of a fully online master’s degree in computer science with Udacity, priced at a total of \$7,000 in tuition, was a [turning point](#) for both MOOCs and alternative credentials in the graduate space. So far more than 8,000 students have enrolled in the program, up from 380 students in spring 2014, and 1,368 students have graduated.

“It certainly was a bold move at the time. We

learned a lot,” says Bras. “Now it’s par for the course.”

Since then Georgia Tech, which works with all three of the major MOOC providers, has created an online master’s in analytics (total tuition price of under \$10,000) and a MicroMasters, or bundle of three courses, in analytics, both on edX. It also offers online courses and Specializations (groupings of courses) on Coursera’s platform. The credential programs are in the black, Bras says, and generating revenue for the departments that took the risk to create them.

Two new fully online master’s degrees are coming soon. But the next wave of credentials will be more ambitious.

The institute in April [released a report](#) from the commission, which includes more than 50 professors, staff members and students. It built on the case made in a 2016 report from Georgia Tech, which found that technology-driven societal changes, demographic trends and shifting attitudes about the role of public universities were challenging assumptions about who benefits from a college education.

“This moment is ripe for change in higher education,” the April report said. “The message for colleges and universities is clear: they can either sit idly by or join in to design their own destiny.”

The report’s central proposal was a commitment to a lifetime education.

SNAPSHOT: GEORGIA TECH AND LIFELONG LEARNING

CONTINUED

As Bras wrote, that approach envisions “continual engagement with learners that extends from kindergarten to forever. The Georgia Tech Commitment means integration with primary and secondary schools, flexible learning options, connectivity that enables learning beyond traditional college years and a network that supports learners all over the world.”

The commission called for the creation of four new takes on credentialing:

- Microcredentials to create more efficient packages of experience and achievement.
- A matrix of “minimester” classes that would replace the three-credit version with more granular and flexible modules.
- A credit-for-accomplishment unit measured by demonstrated competencies and skills.
- A decentralized transcript based on blockchain technology that allows students to combine evidence of learning and achievements into credentials that are relevant to potential employers.

Not what one might expect from a highly selective research institution. As Ray Schroeder, associate vice chancellor for online learning at the University of Illinois at Springfield, says, “what they’re getting is full buy-in at the institution.”

Georgia Tech is working on a related new academic master plan and has revamped its

academic calendar, which Bras said makes possible the scheduling of short-term, online master’s programs. More of those are on the way, he says. So is work on the commission’s call to create in-person locations around the country or beyond.

Dubbed the “atrium” concept, these spaces will in some ways resemble the branch campuses that Northeastern University has set up in several cities around the U.S. and plans to soon bring to Canada. But the report describes a twist on traditional campus locations, with atria being located near Georgia Tech learners in spaces such as co-working offices, corporate locations or retail malls. Bras says a space located five miles from Georgia Tech’s Atlanta campus, for example, would be different from one in Silicon Valley.

The purpose of the locations is to provide in-person learning opportunities for students, many of whom may be studying in largely online programs.

“What we mean to have is a presence,” Bras says. “There’s still a tremendous hunger and need for a human touch point, and we will never go away from that.”

Bras pushes back when asked if alternative credential pathways the institute creates will be different from their traditional degree counterparts—occupying a separate, less prestigious or valuable track for different types of students.

“We’re not talking about having parallel universes. We are Georgia Tech,” he says. “If we put our name on it, it’s going to be Georgia Tech.” ■



“Our goal is to work with our university partners and completely re-envision higher education. These new kinds of bundling and rebundling will happen in dramatic ways.”

Anant Agarwal
edX

programs from Coursera, edX and Udacity aren't massive, or open, online courses. The platforms have been offering fee-bearing certificates for three years. Coursera's individual online courses, for example, run between \$29 and \$99 for students seeking a certificate (they remain free for those who don't), while monthly subscriptions for its Specializations are \$39 to \$79, with program lengths of four to six months. Fees for most of the six-course edX MicroMasters are roughly \$900 to \$1,350.

The first iteration of MOOCs was about universal access; much of the value in these alternative credentials comes from the option of earning college credits.

“Credit is the gold coin of the realm,” says Anant Agarwal, edX's CEO. “Because they're backed by credit, it's a signal of quality.”

Yet free MOOC courses also are part of the platform's appeal to universities. That's

because the free courses can serve a screening role for potential students in online master's degree or short-term credential programs, and as a way to identify capable nontraditional students. Coursera, for example, boasts more than 34 million users who have taken one of its now 2,900 courses. By being able to market directly to this huge group of potential students, the platforms offer a relatively low-cost way of acquiring students—eliminating some of the marketing costs that help drive up tuition prices for more typical online programs.

The University of Pennsylvania in July [announced the creation](#) of a new online master's degree in computer and information technology on Coursera's platform. The degree's total tuition and fees will be \$26,300, about one-third of the roughly \$75,000 tuition price of the campus version of the degree program.

The new program is designed for “students who are talented but can't get to us on campus,” says Wendell Pritchett, Penn's provost. “This is a meaningful expansion of what we do on campus.”

He says Coursera's free MOOCs in computer science, including courses offered by Penn, are a low-stakes tryout for both prospective students and the university. “That allows them to get a sense of what we do, and us to get a better sense of their skills.”

Low-Priced Admissions Funnel for Selective Universities

Altruistic notions about expanding student access obviously aren't the only drivers of

growing interest in alternative graduate credentials.

Overall student demand for M.B.A. programs has stagnated in recent years, and a smattering of business schools [have begun](#) to offer shorter, more specialized versions of their full-time degrees. Part-time M.B.A. tracks have struggled, [recent research](#) has found. Online degrees, both conventional and alternative versions, may be contributing to that stagnation while also creating a new market.

The University of Illinois at Urbana-Champaign began its fully online iMBA with Coursera in 2016. The same university faculty members teach both the online and campus-based versions. But the iMBA's total price is \$22,000, with tuition of \$250 per credit, compared to the more than \$57,618 in tuition and fees that in-state students enrolled in the university's residential M.B.A. program can expect to pay, and the \$82,026 in tuition for out-of-state students. Applicants to the iMBA also are not required to take the GMAT or GRE.

Illinois also offers online versions of master's degrees in computer science and accountancy on Coursera. And earlier this year, a first cohort of 76 students graduated from the iMBA program, which enrolled 1,600 students this spring. The program's retention rate was 92 percent, according to the university. Its average student is 37 years old with 12 years of work experience.

"They're not going in debt," says Ray Schroeder of the University of Illinois at Springfield, who is also founding director of the National Council for Online Education at the University Professional and Continuing Education Association (UPCEA). He predicts substantial growth in MOOC-powered graduate programs

because they are accessible, affordable and tend to be demand driven.

"It's really teaching at scale, using technology," says Schroeder. "They've got all the pieces."

Experts say Coursera and edX can skim smaller percentage fees than traditional OPMs do from the online programs they run with colleges. Spruce Point Capital Management, an investment firm that has a short-selling position on 2U, used a public records request to find that Illinois pays a 40 percent tuition revenue fee to Coursera, less than the 60 percent or more OPMs historically have charged.

MOOC platforms also will have a head start on short-term master's programs if those credentials take off. So will highly selective universities, Schroeder says, both with alternative and more conventional online graduate programs.

"The large universities have the resources to capitalize on these ventures," he says, adding that a graduate degree market shift could be hard on vulnerable public and private colleges. "They're the ones who are really going to be hurt."

MicroMasters and Multiple Formats

The edX MicroMasters typically makes up 25 to 50 percent of the course material and potential credits for a traditional master's degree. And while Agarwal says three-quarters of students in the short-term credential tracks are not pursuing a full master's degree, a MicroMasters gives them a substantial start on a degree if they apply and are accepted into the associated master's

program by the platform's university partners, which agree to issue credits for those credentials.

MicroMasters can be valuable on their own, Agarwal says. The platform has worked with large corporations, including PricewaterhouseCoopers, Fidelity Investments and Equifax, to encourage industries to recognize the credentials.

The six-course, \$1,080 MicroMasters from MIT in supply chain management is one of edX's most established. GE agrees to automatically interview graduates of the program in its Boston office for internships or full-time jobs. And several universities besides MIT offer credit for completing the credential, including Purdue University and the Rochester Institute of Technology.

So far, 17,000 learners have earned a verified certificate for one of the courses in the program, edX says, while 1,244 have earned the full MicroMasters certificate.

Another 40 students earned the MicroMasters over 18 months, then enrolled in MIT's hybrid master's program, completed a semester on campus and, this July, graduated with a full master's degree. Officials from MIT say the MicroMasters curriculum is a tough slog. "The grit required to complete the online courses also helped prepare them for the fast pace of the on-campus classrooms," Chris Caplice, executive director of MIT's Center for Transportation and Logistics, said in a written statement.

The college degree remains the "platinum" postsecondary credential, says Jeff Maggioncalda, Coursera's CEO. But the company has worked with its university partners

to ensure that its Specializations are built on the same modular course content as their associated degree tracks.

"It's the same quality learning experience that you get with the degree program," he says.

Like edX, Coursera touts its relationship with business partners (more than 1,000 employers) and says it can efficiently share information about credential holders with those businesses.

For example, Coursera offers an accelerated Specialization on the infrastructure of the Google Cloud platform, which is designed to be completed in four weeks.

Google designed the credential's course content. Through their partnerships with Coursera, Duke and Michigan now can offer the Specialization to their students free, with more universities planning to soon do the same. Completers can automatically post information about the credential to their LinkedIn profiles, Maggioncalda says, using a "transcript key." And Coursera can share completer information directly with its employer partners.

Maggioncalda says creating connections between students, employers and universities is the biggest value Coursera provides. Some of the platform's university partners were nervous about Coursera's move almost two years ago to ramp up its employer-facing work—out of concern that the platform might become too vocational. But that hesitation faded quickly, he says, as universities want to move closer to employers to get more leverage to help their graduates launch successfully.

"It has totally changed," says Maggioncalda. "Those walls have already fallen."

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“We need as a country to come up with more formats. The education market shouldn’t have a single-sell product.”

Avi Flombaum
Flatiron

Beyond its purchase of GetSmarter for \$103 million last year, 2U has been moving to be able to make plays if short-term, alternative graduate credentials become more popular.

The publicly traded company in January spent \$13 million to lease the online platform from the boot camp Flatiron School as part of a broader deal with WeWork, the co-working company with 453 office locations in 87 cities. The OPM will offer all of its courses through Flatiron’s digital course platform. Any 2U student enrolled in a graduate program can use a WeWork space, and the companies are working to build joint physical learning spaces.

If microcredentials become a viable option for more students, 2U would be in a good spot to offer hybrid online courses with in-person learning options—the approach to digital learning that tends to get the best outcomes.

“We can have our students meeting up in person and then going back online,” says Avi Flombaum, Flatiron’s co-founder, dean and chief product officer.

Flatiron offers self-paced, online and in-person formats. All its courses are split into short modules, which can fit into various delivery modes. Flombaum says students benefit from the variety.

“We need as a country to come up with more formats. The education market shouldn’t have a single-sell product,” he says. “We are trying to create the end-to-end solution for all formats.”

The boot-camp’s namesake, the famous 22-story Flatiron Building in Manhattan, got its moniker because of a resemblance to an iron. Architects built the triangular building in 1902 to best fit on its unusually shaped lot, which is cut diagonally by Broadway. That sort of flexible realism remains too rare in higher education, says Flombaum.

“We’ve made education about everything except what it should be,” he says, by focusing on grades and degrees rather than skills and outcomes. Flatiron’s approach is simpler, Flombaum says, describing it as “let’s make this person better off, as fast as possible, and remove everything else.” ■



Conclusion

The buzz around alternative credentials is warranted this time, many experts say.

Broad societal and economic factors will continue to nudge employers to get more serious about emerging forms of credentials in their hiring practices. And an increasing number are paying for the post-high school education or training of their employees, or even creating their own curricula and alternative credentials.

Meanwhile, it seems likely that more funding streams are on the way from foundations, private investors, some states and, perhaps most important, the federal government.

Yet the much-hyped, [very short life](#) of MissionU—which specifically billed itself as a better option for many young people than a four-year college—is evidence that many alternative credential programs fail. And while billions of dollars in federal funding could fuel an explosion of new credentials, a lack of accompanying quality control could trigger a regulatory and consumer backlash, much like what fueled the ongoing collapse of for-profit college chains.

Some of the models that are being developed, however, could take off. And as powerful brands like Georgia Tech and Google throw their weight and money behind alternative credentials, it seems likely that more employers and potential students will give them a look.

In addition, many small, local programs, like Arapahoe Community College's first class of a dozen medical

assistant apprentices, are being designed to be replicated at other colleges. Several states with centralized community college systems plan to expand stackable alternative credential programs and are funding those efforts.

Success could be declared if alternative credentials can cut into the gap between the 45.8 percent of American adults with a postsecondary credential and the roughly 70 percent of workers who economists say will need one to have a chance of entering the middle class. Even a gain of one or two percentage points could increase economic mobility for millions.

Change in higher education historically can be measured in decades. But creators of some of the latest iterations of alternative credentials have learned from previous failures, as technology improves, demand increases and the right economic conditions line up for a serious expansion. Stay tuned—the next couple of years could get interesting. ■

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