



Building a Workforce Development  
Ecosystem That Works  
Addressing the Skills Gap

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# Higher education can help close the skills gap

## **Higher education can help address the skills gap—and improve their own sustainability—by adapting their degree programs to more closely deliver work-ready skills that business seeks.**

The US economy faces a skills gap, as companies struggle to find job candidates with high-demand skills. Employers are expected to face shortages in workers of all levels of education, with a projected loss of \$1.2 trillion in economic output from 2019-2029.<sup>1</sup> At the same time, institutions of higher education are facing declining enrollments. These twin challenges represent an opportunity, however. Colleges and universities can use their capabilities in designing curricula and delivering content to evolve programs that prepare learners of all ages for in-demand roles in the modern economy.

Higher education is experiencing declining enrollments, and many observers expect these enrollment challenges to continue. That is a drop of more than a million students. Because of declining birthrates, most observers expect enrollment pressure to continue<sup>2</sup>.

There are many reasons for the drop- increasing costs, a heightened awareness of the burden of debt, and an overall questioning, by individuals and business alike, of the importance of higher education to workforce success. Students are questioning the value of traditional two- and four-year degrees and exploring new pathways to work. College enrollment has continued to steadily decrease over the past decade.<sup>3</sup> The pandemic has accelerated these trends, as community college enrollment fell 13 percent and undergraduate enrollment fell 6.6 percent from 2019 to 2022.<sup>4</sup> Enrollments are expected to continue to decline in the long term, given population shifts to and decreasing birth rates.<sup>5</sup> At the same time, more companies are looking to skills rather than degrees as predictors of success in the workforce. Companies are increasingly looking for employees that are not only job-ready with skills that are in-demand today, but that are adaptable as business needs change in the future.

Higher education can help address the skills gap—and improve their own sustainability—by adapting their degree programs to more closely deliver work-ready skills that business seeks. Colleges, universities, and community colleges can welcome adult learners by offering training

<sup>1</sup> [Projecting Future Skill Shortages Through 2029 - AAF \(americanactionforum.org\)](https://www.aaf.org/2020/05/12/projecting-future-skill-shortages-through-2029)

<sup>2</sup> Jon Marcus “[The real reasons why “alarming” numbers of Americans are rejecting college \(hechingerreport.org\)](https://www.thechingerreport.org/2020/05/12/the-real-reasons-why-alarming-numbers-of-americans-are-rejecting-college/)”

<sup>3</sup> [Fast Facts: Enrollment \(98\) \(ed.gov\)](https://nces.ed.gov/ipeds/data/fast-facts/fast-fact.asp?id=98)

<sup>4</sup> [Americans choose jobs over college : NPR](https://www.npr.org/2020/05/12/831111117/americans-choose-jobs-over-college)

<sup>5</sup> [Health, United States 2020-2021 \(cdc.gov\)](https://www.cdc.gov/nchs/healthdata/2020-2021)

programs or certification courses to refresh their skills, allowing them to keep up with the evolving needs of the workplace. Higher education institutions can increase enrollment by re-examining their role in the workforce development ecosystem.

When it comes to preparing workers with needed skills, higher education has competition. Programs offered by for-profit and non-profit training organizations provide pathways outside of traditional higher education institutions. While these programs may not offer “degrees,” they often offer credentials that are valued by industry.

These training institutions typically provide accessible, short-term credentialing, focused on pathways to specific jobs upon completion. By offering courses online and at times that accommodate current workers, they play a key role in upskilling and reskilling workers in mid-career transition. To compete with these programs for student market-share, traditional post-secondary educational institutions can reimagine their coursework and offerings to provide training and credentialing that is aligned to employer needs. Just as individuals need to sharpen their skills to keep pace with the evolving needs of business, higher education must evolve as well.



# Recognizing the skills gap

There is a discrepancy between the skills that employers seek and the skills that job seekers bring to the table. This discrepancy, referred to as the skills gap, continues to grow. Advancements in automation, artificial intelligence, and digital technology have led employers to require new, regularly evolving skills from the workforce. Too often, however, many educational institutions have not been nimble in reimagining programs to prepare students with employable skills.<sup>6</sup> In short, schools aren't giving students the skills that employers need.

As technology advances in the workplace, fewer workers are needed for basic, repetitive tasks, better suited to automation. While technical skills are in high demand, business requirements are also shifting toward uniquely human or soft skills, such as critical thinking, communications, and empathetic judgment.

The structures of higher education are not generally focused on meeting evolving business needs. Accreditation requirements, consensus driven decision-making, and protracted program review cycles do not lend themselves to adapt to emerging employer needs. However, the underpinnings of many liberal arts degrees are the higher order critical thinking skills much in demand.

At an increasing rate, new skills grow in demand, while previously in-demand skills grow obsolete. For example, proficiency with specific software and accounting, which often utilize specific tools to directly complete tangible tasks, have been traditionally considered to be highly sought-after [technical] skills by employers. However, some of these skills can grow obsolete in as little as three years, given the rapid rate of new technological advancements<sup>7</sup>. Through rapid changes from industry and technology, human skills endure and are crucial for workers to stay relevant, remain in-demand, and thrive professionally.

Some industries are feeling the skills gap widening faster than others. In some cases, industry growth is limited by the availability of skilled workers. Consider, for example, the advanced manufacturing industry, which focuses on serving industries such as computers, ships, and aerospace equipment. Around 77 percent of manufacturers report ongoing difficulties attracting and retaining workers.

Entry-level advanced manufacturing jobs receive limited applications, as younger workers have less exposure to and interest in the field.<sup>8</sup> Meanwhile, many mid-career advanced manufacturing jobs, such as computer numerical control machinists, welders, and maintenance technicians, require

<sup>6</sup> Michael Hansen, "[The U.S. Education System Isn't Giving Students What Employers Need](#)," *Harvard Business Review*, May 18, 2021.

<sup>7</sup> Glenda Stump, George Westerman, Katherine Hall, "[Human Skills: Critical Components of Future Work](#)," *The Evolution A Modern Campus Illumination*, March 2, 2020.

<sup>8</sup> Paul Wellener, Victor Reyes, Heather Ashton, Chad Moutray, "[Creating pathways for tomorrow's workforce today](#)," *Deloitte Insights*, May 4, 2021.

hands-on, applied training that can take more than several months to acquire—and those with such skills are in short supply. Moreover, as manufacturing continues to undergo a digital transformation, the adaptability and digital skills required to navigate a “smart” factory also grow increasingly relevant, yet remain scarce among the workforce<sup>9</sup>

A similar gap is also evident in the hospitality industry, as hotels and tourism increasingly adopt new technologies and need workers capable of successfully using that technology. Longer tenured workers often struggle with new technology and lack the training to adopt these skills. As employees who have been in the industry for decades retire, it is harder to bridge this gap<sup>10</sup> and fill open positions with new workers without providing opportunities for training, reskilling, and upskilling. Additionally, the industry also needs workers with skills in customer service and the ability to manage several tasks at once, which are not emphasized by educational institutions and remain in demand and short supply in the hospitality industry. Educational institutions have the opportunity to equip and credential workers with in-demand skills across all industries to bridge these types of gaps.

Higher education—particularly community and technical colleges—can benefit by keeping abreast of the evolution of workforce needs, allowing them to prepare students to thrive in the modern workforce. By focusing on career-connected learning, both academia and job training providers can play a critical role in building a workforce with in-demand skills. They can also offer structured career supports, such as career planning, degrees and certifications, and a built-in conduit to employers in the form of campus career centers. The workforce development ecosystem works best when these education and training providers stay close to businesses and their hiring needs. Post-secondary institutions should work alongside other workforce stakeholders to ensure their offerings propel students forward, prepared for the constantly evolving demands of the modern workplace.



<sup>9</sup> Janey Rae-Dupree “[Wanted: Digital Skills for Smart Factories - Workflow™ \(servicenow.com\)](#)”

<sup>10</sup> Daniel Ciapponi, “[The Skills Gap in the Hospitality Industry](#),” *Hospitality Insights*.

# The Role of Post-Secondary Institutions

Around 19 percent of Americans who graduated from either a two- or four-year university in the past five years reported that their education did not prepare them for their first post-degree job. Equally concerning, more than half of college graduates surveyed did not even apply to an entry-level position in their field because they felt unqualified.<sup>11</sup>

Clearly, there is an opportunity for higher education to better prepare their students for their future careers.

To maintain relevance, post-secondary institutions should re-evaluate their offerings in light of the new, evolving demands of work. This may include adjusting curricula, adapting coursework and degree offerings, and possibly expanding offerings beyond just two- or four-year degrees to include skills certifications. Post-secondary institutions can work with faculty and accreditors to develop micro-credentialing programs and other non-traditional certification programs such as online continuing education and hybrid programs.

It may also mean transforming career services offices from interview scheduling and resume writing training into authentic liaisons to the business community, gathering constructive feedback about what their graduates do well—and where they may be falling short.

As shown in the figure below on page 6, Roles of Higher Education Institutions, different institutions may approach their role in the workforce development ecosystem a little differently—but all should take their role seriously.

While institutions of higher education should seek to understand employers' needs, employers can provide insight into how these desired skills can be taught and credibly demonstrated through coursework. What kinds of jobs do these skills translate into? What are the immediate and long-term career outlooks for various degrees and certifications? A true partnership with two-way flows of information can support the creation of pathways for learners to network and find jobs with employer partners. As employers work more closely with educational institutions to develop curricula specific to their needs, the relationship becomes increasingly beneficial, solidifying the value each partner sees in education that improves the workforce ecosystem.

Educational institutions are increasingly adapting their offerings to be more accessible to learners of all backgrounds. This is necessary for a more complete economic recovery, as the economic downturn due to the COVID pandemic disproportionately impacted women,

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<sup>11</sup> Michael Hansen, "[The U.S. Education System Isn't Giving Students What Employers Need](#)," *Harvard Business Review*, May 18, 2021.

Hispanic Americans, and Black Americans. These populations were more likely to experience negative changes in work—such as losing a job or having to work more or fewer hours—and to their educational plans.<sup>12</sup> Ensuring that all learners—including adult learners—have access to in-demand skills will be key to reducing the ongoing labor shortage faced by employers.

Flexible scheduling, short-term and online coursework, and wraparound services like childcare can improve accessibility to post-secondary education, particularly for non-traditional students and many students graduating high schools who may otherwise choose not to pursue a degree. Expanding offerings and supports such that skills-based training is more accessible to these groups increases access to jobs with sustainable wages, helps maintain a pipeline of skilled workers to employers, and continues to keep educational and training institutions relevant across all demographics alongside improving the overall economy.

Institutions of higher education can also partner with high schools to provide students with more career-focused learnings to build market-relevant skills. This approach reaches younger students and gives them some familiarity with the labor market—which is critical since America is facing a critical shortage of college educated students<sup>13</sup>. Many see this “un-degreed” population as an undervalued source of talent for the economy,<sup>14</sup> and developing opportunities to support these workers is a chance for educational institutions to remain relevant while also growing the in-demand skills of the workforce.

Additionally, the rise of the gig economy, short-term jobs, contract work, hybrid work, and other changing modes of working challenge our ideas of work to be more flexible. As the nature of work changes, so should our approach to hiring, training, and education for both future and current workers. Educational institutions should use labor market research, relationships with employers, trainings about employment, and different modes of instruction to ensure their offerings prepare learners of all backgrounds for the workforce.

### Roles of Educational Institutions

Educational institutions differ in mission and purpose, suggesting different focus areas to evolve to address the skill gap.

Private Liberal Arts Colleges	
Strengths	Opportunities
<ul style="list-style-type: none"> <li>Foundation liberal arts skills of critical thinking, communication, and problem solving</li> </ul>	<ul style="list-style-type: none"> <li>Articulate the connection between the liberal arts competencies students learn and the fundamentally human skills that employers value</li> <li>Provide students with a robust picture of the current and near-term job market, and an understanding of how liberal arts skills map to employer needs</li> </ul>
Private & Public Research Universities	
Strengths	Opportunities
<ul style="list-style-type: none"> <li>Breadth and depth of connections to employers</li> <li>Career coaching and support services for students</li> </ul>	<ul style="list-style-type: none"> <li>Develop lifelong learning opportunities for students to build agile skills over the course of their careers</li> <li>Provide students with a robust picture of the current and near-term job market, and help students map both technical and human skills to employer needs</li> </ul>
Regional Public Comprehensives	
Strengths	Opportunities
<ul style="list-style-type: none"> <li>Ability to establish and nurture connections with local employers</li> </ul>	<ul style="list-style-type: none"> <li>Develop micro credentials and short-term certificates aligned to workforce and local economic needs</li> <li>Help learners understand the ROI of degrees and credentials</li> <li>Provide flexible learning pathways and wraparound support services to eliminate barriers to student success</li> </ul>
Community & Technical Colleges	
Strengths	Opportunities
<ul style="list-style-type: none"> <li>Ability to establish and nurture connections with local employers</li> </ul>	<ul style="list-style-type: none"> <li>Embed “human-skills” within technical degrees to provide learners with transferable skills</li> <li>Develop micro credentials and short-term certificates aligned to workforce and local economic needs</li> <li>Partner with regional publics and other four-year institutions to establish clear degree pathways</li> <li>Help learners understand the ROI of degrees and credentials</li> <li>Provide flexible learning pathways and wraparound support services to eliminate barriers to student success</li> </ul>

Figure 1. Roles of Higher Education Institutions

<sup>12</sup> “Back to Class: Will Pandemic-Disrupted Learners Return to School?” Center for Education Consumer Insights, May 19, 2021.

<sup>13</sup> Douglas Holtz-Eakin, Tom Lee <https://statics.teams.cdn.office.net/evergreen-assets/safelinks/1/atp-safelinks.html>

<sup>14</sup> Rise with the STARS: Building a Stronger Labor market for STARS, Communities, and Employers - Opportunity@Work ([opportunityatwork.org](http://opportunityatwork.org))



# Spotlight: Deloitte's The Future of Work Institute™

Many of the jobs of today didn't exist 20 years ago. So, what skills will be needed in the future? It is a critical question, as technological innovation is making specialized knowledge obsolete at a dizzying pace.

The Institute helps students be more career ready, more career resilient, and fosters the seven enduring human skills that are key to thriving in the workforce: **empathy, emotional intelligence, written and verbal communication, curiosity, adaptability and resilience, critical thinking and problem solving, and logical reasoning** (see Figure 2).

**The Future of Work Institute™ curriculum maps to the key human skills learners need to succeed in an evolving workforce**



Figure 1: FOWI Human Foundational Human Skills

Employers expect critical thinking, analytical skills, problem-solving, and skills related to self-management—such as active learning, resilience, stress tolerance, and flexibility—will be among the skills in highest demand by 2025.<sup>15</sup> Learners preparing for work often experience a gap between their academic and technical studies and the development of these in-demand skills. Building specific skills can feel like trying to hit a moving target. But one skill will always be of value: the ability to adapt as necessary to changing circumstances. Adaptability and openness to lifelong learning builds resilience and allows workers to thrive in an evolving labor market.

Educational institutions continue to seek innovative ways to prepare learners for the workforce. To further this goal, Deloitte has partnered with ten higher education institutions to develop the Future of Work Institute™ (FoWI), a skills-focused micro-credential program to help learners build relevant skills to navigate their career. The Institute guides learners to better understand their role in a changing workforce. The skills taught to learners were developed based on what labor market research and employer insights identified as enduringly relevant, which pointed especially to human skills.

The Institute teaches students how to think about the rapidly evolving market, workforce, and demand for skills. This includes a Core Lab Series to teach participants how work, the workforce, and workplaces will evolve, and how learners can adapt to disruption. This portion of the program includes emphasizing the importance of enduring, human skills across all industries, and how these can be developed, demonstrated, and maintained.

The Institute also provides awareness of multiple career pathways across different industries and their relevant skillsets through the tech fluency ancillary activity program, including exposure to topics related to in-demand skills, such as AI, cybersecurity, cloud technology, chatbot fundamentals, and virtual reality. Students won't become fluent in these disciplines, but they will gain an understanding of what it's like to work in these fields. This portion of the program also includes support on how learners can demonstrate their skills through effectively telling their stories and networking.

Furthermore, the Future of Work Institute guides learners through self-reflection and collaborative exercises to think about their own professional interests and their career goals. These interactive exercises help drive intentional career planning and assist learners in identifying additional learning they may wish to pursue.

<sup>15</sup> "The Future of Jobs Report 2020," *World Economic Forum*, October 20, 2020.

# What's Next?

The workforce development ecosystem is transitioning, as more employers are taking a skills-based approach to hiring. To better support their own students, educational institutions can work with employers and other workforce stakeholders to bridge gaps in developing in-demand skills and creating school-to-career pathways for a variety of learners.

Below are **four key moves** educational institutions can make now to adapt their approach to preparing students for career success:

1. Work closely with employers to identify regional labor market needs, as well as the relevant skills that the workforce needs to pursue a rewarding career.
2. Work with faculty and accreditors to align degree requirements, certification programs, and micro-credential offerings to industry needs, and to ensure students can demonstrate that program credentials hold meaning for employers.

3. Help learners demonstrate their market-relevant skills, including the enduring human skills sought by employers across industries and irrespective of technological change.
4. Offer different modes of education that are accessible and affordable across demographics. This not only expands the pool of potential learners, but also expands the pool of talent for prospective employers.

Educational institutions are teaching the workforce of tomorrow. As enrollments decline, higher education will need to adapt. To prepare students that will thrive in a changing world of work, colleges should re-evaluate their credentialing requirements, coursework, and career support structures. Employers, educational institutions, and government organizations are increasingly working together on closing the skills gap. Through thoughtful action, education can remain a strong driver of workforce preparedness. Workforce-focused education can prepare learners with skills that will not become obsolete in the new world of work.



# Contacts

## Contact:

### **Megan E. Cluver**

Principal, Higher Education Strategy and Analytics  
mcluver@deloitte.com  
+1.802.281.2979

### **Amy Wittmayer**

Specialist Leader, Higher Education Strategy and Analytics  
awittmayer@deloitte.com  
+1.512.619.4376

### **Emily Omrod**

Senior Consultant, Organizational Transformation  
eomrod@deloitte.com  
+1.571.384.0225

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