



# Bridging The Gap Between Education And Occupation



Across the country, college and university leaders are responding to the problem of the widening gap between the skills required for success in the modern workforce and those their graduates possess. Business leaders struggling to fill their ranks, students increasingly considering returns on their investments in education, and public policy makers including the U.S. Department of Education are all looking to higher education institutions to align degree programs with the needs of the American labor market. “The United States is experiencing a workforce skills gap that is holding our economy back and threatening our economic future,” warns CEO member organization Business Roundtable.<sup>1</sup>

As part of ASA’s ongoing research into education innovation, we’ve taken a closer look at this “skills gap” and the initiatives two and four-year schools are undertaking to support modern students’ career readiness.

## I: What Skills Are Employers Looking For In Job-Seeking Grads?

Employers in the trade, manufacturing, and technology industries continue to cite a dearth of applicants who possess traditional STEM-related skills, and across all industries, companies report struggling to find new hires who possess essential “hard skills” such as coding, data analysis, and digital security expertise. Forbes recently identified cyber security a “fast-growing job with a huge skills gap,” noting that 40,000 jobs for information security analysts go unfilled every year.<sup>2</sup>

At the same time, “soft skills”—or what some employers call “fundamental employability skills”<sup>3</sup>—are also keeping business leaders awake at night. These include applied critical thinking and problem-solving as well as written and verbal communication and leadership. The ability to work as a member of a team also ranks high on the list of workers’ key attributes. And with workforces going global, a facility with online collaboration tools is a must.

If the challenge for employers is to find qualified applicants in a competitive market (the national unemployment rate for Americans 25 years of age and older who hold a bachelor’s or higher degree stands at 2.5%)<sup>4</sup>, the challenge for colleges and universities is to recruit and retain a student body concerned that their investment generates the desired return. These challenges are driving innovation in education across curriculum development, credentialing, and learning models.

## Summary Of Key Results

BRT surveyed 177 member companies on workforce talent, including the extent to which they can hire employees with specific skills for key occupations. Approximately 50% of member companies participated.

1

### Talent Gaps Exist Across Industries

Only **5%** of companies reported that finding the talent they need was not at least somewhat problematic.

2

### Talent Gaps Exist Across Skill Categories

STEM-specific skills, general applied knowledge, and workplace skills. Critical thinking/problem-solving and teamwork data analytics and cybersecurity expertise.

3

### Identifying Qualified & Diverse Applicants Remains A Challenge

Most companies struggle to hire qualified candidates with diverse racial, ethnic, and gender qualities.

4

### Similar Recruitment Techniques Are Used For Most Occupations

Most members recruit from 4-year colleges and universities and community colleges. Companies also rely on employee referrals, apprentice/intern programs, and social media.

5

### Firms Invest Heavily To Close Talent Gaps

BRT respondents invest a combined **\$4.5 billion** per year in employee learning and development programs to mitigate talent gaps — and this investment is likely to increase in future years.

Source: Business Roundtable, "2016 BRT Education and Workforce Survey: Results and Analysis."

## II: Innovations To Combat The Skills Gap and Address Students' Needs

### Tailoring Curricula

Increasingly schools are introducing targeted minors that enable students from various disciplines to add a salable credential relatively easily. At 15 to 18 credits and requiring no prerequisites, minors such as Case Western's in data science has drawn liberal arts, engineering, business, and healthcare students alike. Schools are offering targeted majors as well. Miami Dade College's new data analytics degree, one of the first in the country, aims to help "fill the demand for deep analytical talent" that McKinsey Global Institute has estimated at between 140,000 and 180,000 skilled workers by 2018.<sup>5</sup>

Other schools are working directly with specific employers to deliver tailored content. The College Employer Collaborative launched in mid 2015, for example, pairs four community colleges with manufacturing and financial services employers including AGCO, Boeing, MetLife Premier Client Group, The Guardian Life Insurance Company of America, Waddell & Reed, and Securian Financial. The employers, together with CorpU, a corporate training company with a social learning platform, develop courses that the schools then deliver to students in either online or blended learning formats. Whether the courses are credit-bearing or lead to a non-traditional credentialing is up to the schools. Either way, the students have something concrete to put on their resumes when applying for jobs with any of the partnering employers.

Going forward, we may expect to see colleges, universities, and employers forging alliances to form partnerships that benefit all. As Michael Cartney, president of South Dakota’s Lake Area Technical Institute, winner of the Aspen Institute’s 2017 Prize for Community College Excellence, notes, “Tightly knit student cohorts in clearly defined graduation paths with close connections to their industry-trained instructors has been a formula for success.”<sup>6</sup>

## Partnerships With Non-Traditional Providers

Outside the walls of colleges and universities, independent education providers such as Coursera, edX, Udacity, and a series of lesser known micro-learning platforms are doing their part to bridge the skills gap by offering free or low-priced courses and the opportunity to earn certificates, badges, and “micro-degrees.” Industry experts predict that in the coming years, we may expect that students will complement their undergraduate or graduate coursework with various badges or other “micro-level markers of competency.”<sup>7</sup>

While colleges and universities consider the potential impact of alternative credentialing on their institutions, the U.S. Department of Education (ED) has launched its Educational Quality Through Innovative Partnerships (EQUIP) experiment. Citing the accessibility, affordability, and customizability of non-traditional providers’ offerings, the ED has paired eight higher ed institutions with Guild, StraighterLine, Epicodus and other platforms and authorized students’ use of federal financial aid to pay for co-provided programs.<sup>8</sup>

What kind of weight employers will give alternative credentials remains to be seen. But it is only reasonable to expect that these will influence traditional institution’s recruitment and retention efforts. As one industry analyst writes, given that non-traditional “disruptors” compete on outcomes, including jobs, salaries, promotions, and learning, the “results should benefit students across higher education, as the market forces greater transparency on the outcomes that matter most to graduates.”<sup>9</sup>

## Innovations In Learning Models

In addition to partnering with employers and non-traditional providers, colleges and universities are also using new learning models to address students’ concerns regarding how well degree programs can work for *them*.

- **Personalized learning** involves enabling students to take control of where and when they learn.<sup>10</sup> These programs may be conducted partly or fully online via collaborative learning platforms and/or incorporate evening or weekend classes for working students. Some programs give credit for outside coursework or professional experience. Some incorporate a tutoring element. This is a common addition to remedial classes students tend to struggle with, including math.<sup>11</sup>
- **Microlearning** refers to content being divided into small chunks that students can interact with on their own schedule and at their own pace. Delivered entirely online via short videos that may be as short as 90 to 120 seconds long, a microlearning course eliminates the need for students to attend lengthy lectures in person or via webinar. Content is designed to be delivered on a variety of devices, including smartphones, and according to one of the model’s proponents, the short format renders information “easier to process and retain.”<sup>12</sup>
- **High-velocity learning** is based on the notion that students learn faster through hands-on problem solving in real-life simulations than they do through lectures. High-velocity learning puts students in the role of active learner rather than passive recipient of information—a shift, some experts say, that will enhance the utility of a student’s learning and enable them to learn faster.

### III: Conclusion

Our research suggests that bridging the skills gap will require a series of innovations that address both students' and employers needs. What these will ultimately entail remains to be seen. But the trends we've discussed here indicate that the various economic, technological, and intellectual forces at work are already driving major shifts in the way institutions of higher education design and deliver degree and certification programs. They're also having an impact on students' decisions around higher ed, including how to leverage non-traditional learning to set themselves up for success in the job market. ASA will be following these trends in addition to the challenges, opportunities, and potential for disruption the skills gap is providing for students and higher education institutions.

For more on ASA and our research, visit [asa.org/insights](http://asa.org/insights).

#### Sources

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