

EDUCATION | CLOSING THE GAP

With Innovation, Colleges Fill the Skills Gap

By JOHN HANC JUNE 7, 2017

How large is the so-called skills gap?

The Manpower Group, a human resources consulting firm, says the gap, which is often defined as the difference in job skills required and the actual skills possessed by employees, is a chasm. Of the more than 42,000 employers the firm surveyed last year, 40 percent said they were having difficulties filling roles, the highest level since 2007.

While some experts say that businesses bemoaning the quality of talent emerging from colleges is a perennial complaint, no one argues the importance of developing programs to meet the needs of employers in a fast-changing workplace.

“The economy and employers have changed,” said Louis Soares, vice president of the American Council on Education. “They want you to come in with a hot skill set, ready to go. Colleges are paying attention at different levels to what that means and trying to develop programs.”

Some are doing that better than others. “Some institutions are very good,” said Gary Burtless, an economist with the Brookings Institution. “They have their ear to

the ground, they're listening to local employers and paying attention to what they need."

Those needs may best be met by innovative and often collaborative programs, some of which, like the following, are upending traditional approaches and views on higher education.

Case Western Reserve University

Creating 15- or 18-credit minors may be one of the more effective strategies for preparing students to enter high-demand fields. Because a minor requires fewer credits than a major and few, if any, prerequisites, these allow colleges to be more flexible and responsive to changing industries and emerging technologies.

Case Western's minor in applied data science, for example, funnels students into this hot field from other disciplines. The students learn skills like data management, distributed computing, informatics and statistical analytics.

The Case minor has attracted students from majors like arts and sciences, engineering, business and health care. Graduates enter the market with an important and salable credential. A 2016 poll conducted by Gallup for the Business-Higher Education Forum found that 69 percent of employers expected that by 2021, candidates with data science skills would get preference for jobs in their organizations.

SUNY Certificate Program

"How would you like to take a 12-week, 90-hour training program and be hired practically the minute after you've been handed your certificate?"

That's the alluring promise from Farmingdale State College in New York for its new natural-gas technician certificate program, which is a partnership with National Grid, an energy provider.

The claim, made on an online blog, is not just hype. "It's basically true," said Professor Marjaneh Issapour, who heads the program. "Every one of our first 12

graduates got a job with National Grid.”

As the program grows, that may not be the case. But others could be interested in establishing such a talent pipeline, given the projected shortages in this and related technical fields.

In a 2016 study of member organizations by the Associated Equipment Distributors, a trade association representing more than 800 equipment, distributors, manufacturers and industry-service companies, 50 percent reported that the inability to find qualified technicians hinders business growth and increases costs. More than 60 percent said that the skills gap made it difficult to meet customer demand.

The Farmingdale certificate program, which began last summer, already has over 130 applicants. “It shows there’s a need for these kinds of programs,” Professor Issapour said. And while the college hopes some of the students return for associate’s or bachelor’s degrees, it realizes not all will. “Not everyone is going to want to get a college degree,” she said. “And honestly, not everyone should.”

California Institute of Technology/Base 11

A collaboration with a major university and a nonprofit organization that identifies high-potential students who have shown interest but lack access and resources: That’s the Caltech-Base 11 partnership, in which community college students from throughout California are mentored by Caltech graduate students through on-campus summer internships and semester-long programs.

The emphasis is on STEM (science, technology, engineering and math) majors in general and aerospace engineering, a major employer in the state, in particular. It has worked.

“We reviewed the students who have participated in both programs, and the vast majority have gone on to four-year colleges, and several of them have a full ride,” said Beverley McKeon, the Caltech faculty director for the program.

Others, she said, have gotten high-profile internships, including one with the NASA Jet Propulsion Laboratory.

Base 11, the nonprofit partner, offers two similar STEM career accelerator programs with the University of Southern California's School of Engineering and the University of California, Irvine.

Lake Area Technical Institute

"Tightly knit student cohorts in clearly defined graduation paths with close connections to their industry-trained instructors has been a formula for success," said Michael Cartney, president of the Lake Area Technical Institute in Watertown, S.D., in testimony to the Senate Commerce Committee in March.

There's a reason Congress is listening to Mr. Cartney. President Barack Obama went there in 2015 to give the commencement address, and the Aspen Institute, a Washington-based educational and policy studies organization, gave the two-year college the 2017 Prize for Community College Excellence.

In the announcement of the award in March, the organization cited the college's "outstanding" graduation rate, which is twice the national average compared with other community colleges, and its 99 percent job placement rate. The school's student-loan default rate is also about half the national average.

A couple of key reasons: The college holds its 2,400 students accountable, as if they were in a job setting. And the college has close ties with local and regional industry (every major, for example, has an advisory board of industry professionals). Hence, they are able to develop programs that mirror the needs of employers.

Mr. Cartney also takes a pragmatic view of education. "We view college as a pathway," he said, "not a destination."

Miami Dade College

The college's new degree in data analytics is one of the first in Florida. But what's particularly innovative is the way the training is offered. The program begins

with a certificate in business intelligence, progresses to an associate in science in business intelligence and culminates in a bachelor of science in data analytics.

The Labor Department defines this “stackable” approach as a sequence of credentials that can be accumulated to build up students’ qualifications and help them move along a career path.

“This provides flexibility for those students who might need to be in the work force while in school,” said Karen Elzey, vice president of the Business-Higher Education Forum, which was a partner in starting the program.

Dalhousie University

The demand for dental hygienists in the United States is expected to grow nearly 20 percent in the next decade, according to the Bureau of Labor Statistics. We can look north for good ideas on how to train students for this field, while also addressing the health needs of lower-income communities.

Each winter, dental hygiene students from Dalhousie University in Halifax, Nova Scotia, head up to the remote Labrador village of Forteau (population: about 450). The clinic there does not have the funding for a dental hygienist.

The students provide the majority of oral hygiene and education for the community. The students also see stark contrasts with what they would normally encounter in more-affluent communities (patients with tobacco staining, for example).

The graduates of this internship are prepared for jobs in major Canadian population centers, although interestingly, the four Dalhousie dental hygiene students who went to Forteau this winter said they would prefer to practice in rural areas when they graduated.

Benjamin Franklin Institute of Technology

The very existence of the Benjamin Franklin Institute of Technology in Boston is a reminder that the challenge of maintaining a skilled work force is nothing new.

Upon his death in 1790, Franklin left Boston an endowment to fund apprenticeships for young men under 25.

“I believe good apprentices are likely to make good citizens,” he wrote in his will.

That endowment was the seed money for what eventually became the college named in his honor. The college, in the city’s South End, offers two- and four-year degrees in high-demand fields like health information technology, computer technology and automotive technology (in the planning stages: a program in driverless-car technology).

Peter Haubrich, 23, is in many ways a typical Franklin student. He graduated in May 2016 with a bachelor of science in health information technology. A first-generation college student, he was raised by his grandmother in the Roxbury section of Boston. Five months after graduation, Mr. Haubrich says he was hired by UnitedHealthcare to work in its I.T. division for a starting salary of \$65,000 and a \$3,000 signing bonus.

Mr. Haubrich said he is aware of the relationship of the college to Benjamin Franklin. “I knew his dough started the school,” he said. “Seems to me they’re definitely carrying out his mission.”

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