

The Workforce Playbook

A COMMUNITY COLLEGE
GUIDE TO DELIVERING
EXCELLENT CAREER AND
TECHNICAL EDUCATION



THE ASPEN INSTITUTE

COLLEGE EXCELLENCE PROGRAM

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THE ASPEN INSTITUTE COLLEGE EXCELLENCE PROGRAM

The Aspen Institute College Excellence Program aims to advance higher education practices, policies, and leadership that significantly improve student outcomes. Through the Aspen Prize for Community College Excellence and other initiatives, the College Excellence Program works to improve colleges' understanding and capacity to teach and graduate students, especially the growing population of low-income students and students of color on American campuses.

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More than ever in the United States, a college education is a prerequisite for economic mobility and financial stability.

Whether that education culminates in a graduate degree or a vocational certificate, the numbers are clear: While in 1991 there were nearly 15 million good jobs for workers with a high school diploma or less, now there are only 13 million of these jobs, and the number continues to decline.¹ This translates into some stark realities. Today, Americans with only a high school education or less experience 78 percent higher unemployment than those with some higher education. As well, more educated populations tend to have better health outcomes and be more civically involved.²

When Americans attain college credentials, the benefits accrue to more than individuals. Research collected by CEOs for Cities shows that increases in educational attainment produce greater rates of economic growth and of personal income at all levels of education, and make cities more resistant to economic instability.³ And this systemic reliance on education only grows as technology and the economy—and the skills required to succeed—continue to change at an increasingly rapid pace, creating entirely new types of jobs, wiping out others, and in all cases requiring the attainment of new skills and knowledge.

Yet nearly two in five U.S. employers report difficulty filling jobs due to a lack of available talent. They struggle to find educated, qualified workers, even in fields that offer strong wages, and depend on institutions of higher education to provide the talent they need.⁴

Of course, getting a college credential only truly helps all the stakeholders in this ecosystem when institutions do a good job of preparing students for careers that are in demand and that will pay them wages high enough to support their families. Too often, that's not the case, even when educators and institutions have the best intentions. Graduates of technical programs may, once in the workplace, find that the equipment they learned on—if in fact they got hands-on experience at all—is years out

of date. They may only be able to get low-wage work, or no work at all, if their degree program prepared them for a waning field in their region. Employers may find that new hires have technical skills but are unable to communicate and calculate with comfort.

Then there's the question of who is—and is not—able to access and benefit from the career pipelines that offer strong opportunities for social mobility and entry to the middle class. Even in the midst of an economic boom, approximately 27 million adults in the United States remain unemployed or stuck in low-wage jobs. Additionally, there are an estimated 5 million to 7 million “opportunity youth,” or young adults between the ages of 16 and 24, who are neither working nor in school. People of color are overrepresented in both of these populations. Black adults, for example, faced an unemployment rate of 6.6 percent in 2018, compared with a 3.6 percent rate for white workers. Though we know that higher education is the most reliable route to a good job, college attendance, retention, and completion rates for people of color and low-income populations persistently lag behind those of white and more affluent Americans. These disparities have significant impacts on economic mobility. According to a recent report by the Economic Policy Institute, while the average inflation-adjusted wage rates for college graduates have increased by 6 percent since 2000, wage rates for those with just some college credit and no degree have fallen by 2 percent.⁵

¹ “Good jobs,” according to the Georgetown Center on Education and the Workforce, refer to those that pay at least \$35,000 for workers ages 25–44 and \$45,000 for those ages 45–64. See *Three Educational Pathways to Good Jobs*. (n.d.). Retrieved from <https://cew.georgetown.edu/cew-reports/3pathways/>

² Whitmore Schanzenbach, D., Bauer, L., & Breitwieser, A. (2017). *Eight Economic Facts on Higher Education*. Washington, DC: The Brookings Institution.

³ Cortright, J. (2008). *The City Dividends: How Cities Gain by Making Small Improvements in Metropolitan Performance*. Cleveland, OH: CEOs for Cities, Impresa Inc.

⁴ Bessen, J. (2014). “Employers Aren’t Just Whining—the ‘Skills Gap’ Is Real.” Retrieved from <https://hbr.org/2014/08/employers-arent-just-whining-the-skills-gap-is-real>

⁵ Economic Policy Institute. (2019). *State of Working America Data Library*. Retrieved from <https://www.epi.org/data/#?subject=wage-education>

These are challenges that, among American institutions, community colleges are uniquely positioned to address. Community colleges simultaneously drive talent development for employers and economic mobility for the 8.7 million students they educate each year—34 percent of all U.S. undergraduates.⁶ These institutions are especially important for college students of color, about half of whom start their postsecondary education at community colleges, and low-income college students, 44 percent of whom start at community colleges.

Lately, an increasingly vocal minority has insisted that college is overrated—that you can bypass college on your way to a prosperous career. There are a few careers one can enter with just a high school education. For the vast majority of jobs that pay family-sustaining wages, however, a credential beyond high school is obligatory. It has long been known that earning a bachelor's degree (and beyond) is highly correlated with higher lifetime earnings and broader career opportunities: According to research from the College Board, bachelor's degree holders earn 44 percent more over their working years than those with only a high school diploma. Research also consistently demonstrates that employers value skills associated with a liberal arts education, including critical thinking, communications, and teamwork.

Perhaps less well-known is that approximately 15.7 million, or 24 percent, of the nation's well-paying jobs require more than a high school diploma but less than a bachelor's degree.⁷ Community colleges offer an array of associate's degrees, certificates, and industry credentials to help students directly enter a variety of career pathways, as well as an on-ramp to transfer to four-year

institutions to pursue the 56 percent of good jobs that require bachelor's degrees.

But the fact is, some colleges do better than others delivering on this value proposition. The actions they take to ensure that graduates find labor market success—the programs and courses they offer, the type of teaching and learning they deliver, the relationships they build with partners—make a big difference in whether their alumni succeed. Some do better than others, too, with respect to equity. They strategically and proactively identify groups in their communities with the least access to credentials that offer strong labor market outcomes, and work intentionally to connect those populations to the institution, programs, and supports they need to be successful.

With this understanding, the Aspen Institute College Excellence Program (CEP) has developed *The Workforce Playbook*, a practical guide to setting a vision for talent development and economic mobility and implementing a key set of practices to deliver upon this vision, in ways that balance the needs of students and employers to advance the overall prosperity of their regions.

The research presented here highlights a set of practices, processes, and mindsets that distinguish colleges that are effective at ensuring that diverse students succeed in the labor market and that make a significant, positive difference in their communities.

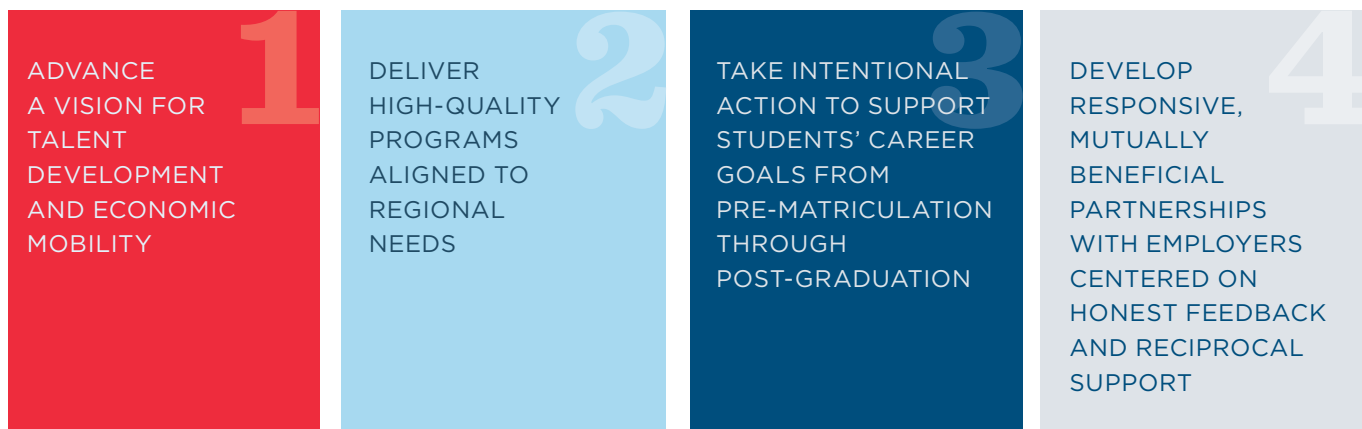
Aspen has been evaluating effective community colleges since 2011, when the biannual \$1 million Aspen Prize for Community College Excellence was first awarded. Using a methodology similar to that developed for the first round of the Aspen Prize, for this playbook Aspen examined quantitative outcomes in completion and earnings for graduates to identify nearly 300 high-performing community and technical colleges, then used qualitative analyses to identify

⁶ Community College FAQs. (n.d.). Retrieved from <https://ccrc.tc.columbia.edu/Community-College-FAQs.html>

⁷ Of the remaining jobs, 56 percent require at least a bachelor's degree. See *Three Educational Pathways to Good Jobs*. (n.d.). Retrieved from <https://cew.georgetown.edu/cew-reports/3pathways/>

a subgroup of several dozen institutions with strong workforce programs. *The Workforce Playbook* is based on interviews with leaders and practitioners from 30 community colleges identified, as well as in-depth qualitative investigations of six colleges that deliver exceptional labor market outcomes for students.

We found that the essential practices of excellent colleges fall into four domains:



The four sections of the playbook describe how the many essential practices can be developed and implemented and enable users to chart their own institution's path to improvement. At excellent colleges, these practices are intertwined: The relative impact of one often depends on the successful adoption of others. To truly align a college's practice with community, employer, and student needs, leaders must strive to integrate and apply these strategies holistically—ideally within the context of a broader vision for the college's unique role in building equitable, high-quality pathways to economic opportunity for every member of the community.

To aid in this effort, Aspen has developed a set of practical tools for community college leaders to use to assess their current practice against the exemplary practices outlined in the playbook, prioritize next steps, and begin implementation efforts. These can be found at the end of this playbook.

This work is challenging, but worth it. Delivering on this mission has the potential to impact communities across generations. ■

**“College is a pathway,
not a destination.”**

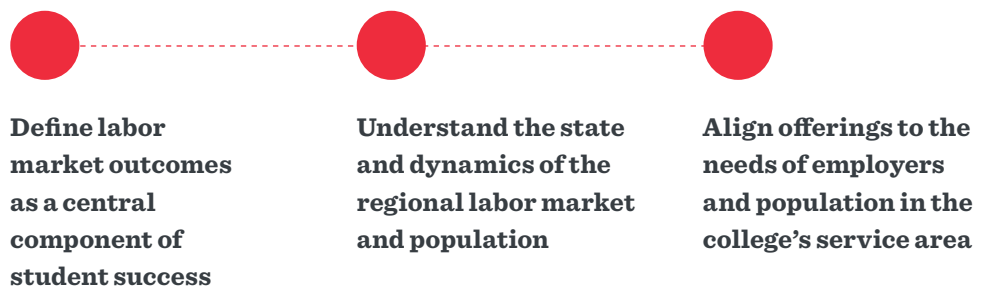
— Mike Cartney, president, Lake Area Technical Institute

Domain 1

ADVANCE
A VISION
FOR
TALENT
DEVELOPMENT
AND
ECONOMIC
MOBILITY

Most community colleges have an approach to workforce development that is simultaneously passive and proactive: They respond to employer requests to build and improve programs, and periodically work to attract new employers to their region. Community colleges that achieve excellent labor market outcomes do more: Their leaders develop a vision that maximizes the college's potential to promote social mobility and develop talent within the regional economy, rooted in a full understanding of the demographic and economic contexts in which they operate. Leaders establish routines that enable the college to consider how, exactly, the institution can best contribute to the region—its populations and its employers—and how it must improve to do so. This vision provides a lodestar for both internal decision-making and external partnership strategies; it enables colleges to make the tradeoffs and tough decisions that inevitably arise in the course of this work.

To develop a culture centered on student outcomes beyond graduation and an intentionality about ensuring equity in those outcomes, colleges must:



Define labor market outcomes as a central component of student success

The first step in moving toward stronger labor market outcomes can be one of the most difficult, since it often requires a fundamental shift in how the college defines its role as an institution. We have come a long way from the time, not so long ago, when community college leaders believed it was enough to get students in the door. Now the predominant view is that student success, in the form of degree and credential completion, is as critical as access. Exceptional college leaders take that one step further: They feel obligated not just to get students to graduation but to ensure they'll succeed in what comes next, whether careers or further education.

In the face of continuing funding cuts, the acute and varied needs of students, and challenging retention and completion goals, it can seem like a lot to charge everyone at a college with taking ownership for what happens to students after they leave. The fact is, though, that a credential disconnected from students' ultimate trajectories is of limited value to them and to society. In the words of Mike Cartney, the president of Lake Area Technical Institute (LATI) in Watertown, South Dakota, "College is a pathway, not a destination."

But a pathway to what, exactly? Excellent colleges establish themselves as an element of a bigger ecosystem, responsible for determining who needs access to higher education, what their students need to succeed, and what communities need from graduates. Then they deliver. They embrace a dual set of goals: serving as a ladder to economic opportunity for a diverse population and developing the talent that regional employers require. And they communicate this idea broadly, both internally and with external partners. At these colleges, it is clear to everyone: Student success is only achieved if graduates are truly better off once they complete.

At Lake Area Technical Institute, this declaration is explicit. President Cartney highlights graduates' employment as a key institutional success metric, a fact he has repeatedly reinforced through internal meetings and at public engagements. In his March 2017 testimony to the U.S. Senate Committee on Commerce, Science, and Transportation, he explained how important this vision of what he calls "hire education" is to South Dakota: "We redefined success as [job] placement, not graduation."⁸

With 99 percent of graduates employed or in continuing education, LATI has made it clear that embracing a broader vision does not preclude success. Nor does it mean creating opportunity for only some students: While attaining exceptional labor market outcomes for graduates, LATI also eliminated the gap in completion rates between low-income students and their higher-income peers through intentional strategies to identify and address students' unique support and learning needs.

Similarly, given the large proportion of low-wage workers in its service area, Valencia College in Orlando, Florida, defines its vision as creating pathways for low-wage students out of poverty. This idea guides everything Valencia does—it is published as a guiding tenet on strategic planning documents and at the top of meeting agendas. With this vision in mind, Valencia has succeeded in scaling the delivery of industry-recognized credentials that offer good wages, and has targeted the outreach, recruitment, and delivery of those credential programs to the highest-need areas of the Orlando metropolitan region.

⁸ John Thune U.S. Senator for South Dakota. (2017, March 29). *Lake Area Technical Institute President Michael Cartney Testifies in Thune-Led Hearing* [Press release]. Retrieved from <https://www.thune.senate.gov/public/index.cfm/2017/3/lake-area-technical-institute-president-michael-cartney-testifies-in-thune-led-hearing>

At Columbus State Community College in Ohio, David Harrison became president at the peak of the recession. Declaring the goal of becoming “a leader in advancing our region’s prosperity,” he brought together leaders from K-12, higher education, and regional businesses to make clear that the community college was singularly focused on increasing educational attainment levels, particularly among the state’s fast-growing populations of working adults and low-income and first-generation students.

All of these colleges work hard to ensure that students complete. But they visibly connect the goal of completion to what comes next for students: employment or transfer toward a four-year degree.⁹ And they do so with equity at the forefront—a recognition of their institutions’ unique and critical role in developing the talent that resides in every pocket of the community by aligning their practices and policies to make opportunity real for those who otherwise might be left behind.

Understand the regional labor market and population

College leaders who are committed to meeting student and regional needs dive deeply into quantitative data and qualitative inquiry in order to understand those needs. They access quantitative data for framing: How big is an industry, a population, a company, today and in the future? They consult key individuals and groups in the community—from employers to community-based organizations, from K-12 school districts to universities—to gather information that may provide crucial detail or contradict past trends. By casting a wide net and consistently checking for change, leaders understand where their institutions should focus their efforts (and what issues may require partnership with other community organizations).

Understand the regional economy

Regional economies are rarely static. Companies close, new ones arrive, affluent areas become less so, and struggling areas gain ground. As industries shift and advances in technology redefine how and where people work, college leaders must keep a finger on the pulse of the regional economy. A common starting point is the regular collection and analysis of quantitative data from the field.¹⁰ *Table 1* suggests data that can help build an understanding of a region’s economic context.

But data don’t tell the whole story. Jeff Strohl, director of research at the Georgetown University Center on Education and the Workforce, advises that in many ways, forecasting the future of work is much like forecasting the weather: Labor market data and expert analysts may be able to give some indication of major trends and expected events, but circumstances change, sometimes in ways only industry leaders can anticipate. So community college leaders who have developed strong pipelines to jobs also seek out information by speaking directly with industry leaders and economic and workforce development groups. They become formal members of chambers of commerce, workforce boards, economic development authorities,

⁹ Importantly, Valencia and Columbus State consider labor market outcomes more broadly and account for the fact that strong transfer practices and bachelor’s attainment are also often a necessary part of workforce development, particularly in large metropolitan areas with increasing numbers of knowledge-based jobs. While this guide focuses primarily on direct-to-workforce programs, *The Transfer Playbook: Essential Practices for Two- and Four-Year Colleges*, published by the Aspen Institute and Community College Research Center in May 2016, provides guidance on the best practices in establishing effective transfer pathways. See Wyner, J., Deane, K., Jenkins, D., & Fink, J. (2016). *The Transfer Playbook: Essential Practices for Two- and Four-Year Colleges*. Washington, DC: The Aspen Institute and Community College Research Center.

¹⁰ For more about key labor market data sources and analysis practices, see Rassen, E., Booth, K., Falk, E., & Wyner, J. (2016). *Using Labor Market Data to Improve Student Success*. Washington, DC: The Aspen Institute.

business advisory boards, trade or industry associations, nonprofit employer boards (such as at hospitals), and other relevant organizations. And they meet privately with key individuals working for regional employers, building the relationships needed to gather intelligence about everything from expected growth plans to anticipated layoffs to predicted technological advances that may impact the number and nature of jobs in the region.

At Northeast Wisconsin Technical College in Green Bay, President Jeffrey Rafn engages with top-level executives in the employer community by participating in a consortium of about a dozen CEOs, including those from tech

companies, the hospital system, a furniture company, a national engineering firm, a fiber networks firm, and several small businesses. Membership to this group, which meets monthly to discuss common issues, comes with a \$8,300 annual fee, which Rafn considers money well spent. He views this as the most important learning he does, relevant both to his practice as an educator and to NWTC's role as a regional employer. (NWTC's vice presidents take part in a separate business council, called Executive Agenda.) "I learn so much from simply being in the room, absorbing the business language, and understanding what employers care about in their own words," Rafn said.

TABLE 1: RESEARCHING THE ECONOMY

RESEARCH QUESTION	KEY INDICATORS	SOURCES
What major industry sectors and/or employers define our economy?	• Projected number of job vacancies by industry sector and major company • Median wages of occupations with the greatest number of vacancies	Publicly available datasets: • National Equity Atlas • American FactFinder (U.S. Census Bureau) • Bureau of Labor Statistics • State unemployment insurance wage data¹¹ Other sources: • Proprietary systems, like Burning Glass and Emsi • Analysis by individual businesses and industry groups characteristics of the unemployed
Is the region's overall economy growing or declining?	• Number of jobs gained/lost in the last 1, 5, and 10 years • Projected job growth/decline over the next 1, 5, and 10 years • Median earnings growth/decline in the last 1, 5, and 10 years	
What is the projected education level needed for the good jobs in our region?	• Earnings threshold required for economic stability within region (for an individual and a family) • Specific jobs that provide such earnings • Earnings trajectories for the most common entry-level positions • Education credentials required for the primary living-wage jobs	
What are the economic challenges in our region?	• Percent of population in poverty, by race and ethnicity • Percent of children in poverty, by race and ethnicity • Unemployment rates and demographics	

¹¹ Wage data in UI records include average starting earnings, average current earnings, and growth in earnings before and after program completion. These data cover the great majority of workers in each state, span many years, and tend to be more accurate than most other data sources. However, they do exclude students who moved to other states, the self-employed, federal employees, members of the military, and those in the cash economy.

Understand the population

Like economies, populations are changing. By 2055, the United States will not have any single racial or ethnic majority.¹² The share of Americans in older age brackets continues to increase, as does the number of people living in nontraditional, non-single-family households. Of course, these trends vary by region. In one community college service area, the population may be shifting from middle-class workers seeking retraining to new Hispanic immigrants eager for a foothold in the workplace. Another college may face a rise in dual enrollment among high schoolers and a declining number of unemployed adults. By anticipating demographic changes, colleges can adapt programs and practices to the needs of prospective students and the employers who want to hire them. Institutions can also take a critical look at segments of their communities that may have always been present, but historically have been poorly served by higher education and have had inequitable access to programs that offer paths to stable employment and family-sustaining wages. *Table 2* shows

questions colleges might ask to understand regional demographics and opportunities to create more inclusive talent development strategies.

As with labor market information, conversations can fill out the demographic picture. K-12 partners can help colleges understand which students in the service area—especially students of color—are failing to graduate high school and what might be keeping graduates from going to college or attending specific college programs. Community-based and government workforce organizations can identify which low-income populations are unable to find good jobs. These partners can provide more nuanced analyses of the shifting perspectives that often accompany demographic changes. What do current high school students and their parents think about higher education and about community college? What keeps unemployed adults from pursuing a college’s career and technical offerings? What are the unique barriers students of color may face in accessing programs of study in high-wage, high-demand fields?

TABLE 2: RESEARCHING THE POPULATION

RESEARCH QUESTION	KEY INDICATORS	SOURCES
How are demographics changing in our service area?	• Regional population growth or decline • Percent change in population in region (by race, ethnicity, and income level) • Change in K-12 enrollment (by race, ethnicity, and income level) • Change in high school graduation rates (by race, ethnicity, and income level)	Publicly available datasets: • National Equity Atlas • American FactFinder (U.S. Census Bureau) Other sources: • Local economic or workforce development groups • Employer surveys and conversations • K-12 school systems
What is the education level of our population, and what disparities exist?	• Percent of adult population at different levels of educational attainment (by race, ethnicity, and age) • Change in educational attainment rates over time (by race, ethnicity, and age)	

¹² Fry, R., Lopez, M., Cohn, D., Passel, J., & Brown, A. (2015). *Modern Immigration Wave Brings 59 Million to U.S., Driving Population Growth and Change Through 2065*. Washington, DC: Pew Research Center.

Align offerings to the needs of employers and population

Excellent colleges regularly use this information about the labor market and regional population to assess the efficacy of their efforts. In strategic planning processes and annual analyses, they ask whether program offerings are aligned to regional economic and demographic needs.

Assess program alignment with economic needs

Ideally, a college offers just the right programs, with just the right number of seats, so students can graduate into a market that values their skills and employers can access the talent they need to fill available jobs. In practice, such a precise match is elusive. To continuously work toward a healthy equilibrium, leaders must compare their insights from economic and demographic landscapes to their programs. Among the key considerations:

Supply and demand. Compare projected job vacancies for the region's largest industries to the projected supply of graduates. This should include the college's own graduates as well as graduates from similar programs at other area colleges. Even in high-demand fields, colleges can risk oversupplying the market if leaders do not know how many new graduates from other colleges are competing for employment.

Changes over time. Compare projections for key industries and employers with anticipated program size. Are there programs serving declining industries that may need to scale back in the coming years? Are there small but quickly growing industries (especially those that offer good wages) that may require aggressive program growth?

Earnings and cost of living. Define a living wage in the region and compare it to program earnings and employment outcomes. Do programs provide pathways to living-wage jobs? Do the careers that start with lower wages offer steeper earning trajectories over time for most graduates, or will graduates need to work many years before their educational investment yields a good return?

Leveraging this evaluation, leaders can think strategically about where the college is and is not aligned to the needs of the labor market and population and shift strategies accordingly. A changing economic landscape should be reflected on campus; a booming industry with new technologies is apt to require a new program or the expansion or redesign of an existing one. Conversely, if an industry shrinks, the corresponding college program should be downsized, even if students want to enroll. After all, having 100 qualified students for 10 open positions may be great for employers, but not for students, 90 of whom will find themselves credentialed but unemployed. And while it may be financially advantageous in the short run to continue accepting these enrollments, poor outcomes ultimately damage the college's reputation and therefore its ability to serve future students. In the end, students and families need evidence that their investment in higher education pays off.

In the early 2000s, then-president Gary Green oversaw a sizable shift in the programs Forsyth Technical Community College offered, grounded in a deep understanding of its regional context. In the wake of textile and furniture manufacturers in the Winston-Salem, North Carolina, area outsourcing work abroad and regional cigarette companies downsizing, the college found that only 20 percent of its programs were aligned with career and technical fields that were likely to generate future economic growth. So Forsyth Tech collaborated with the local academic hospital to create a biotechnology program. Soon, Forsyth Tech was supplying the medical center with lab technicians and other workers. This process was repeated in other growing sectors: advanced machining, cybersecurity, welding, and more. By making a concerted effort to understand what skills companies need and then training students in those skills, Forsyth Tech's leaders have ensured that 80 percent of the college's programs focus on channeling students directly into in-demand fields with good wages.

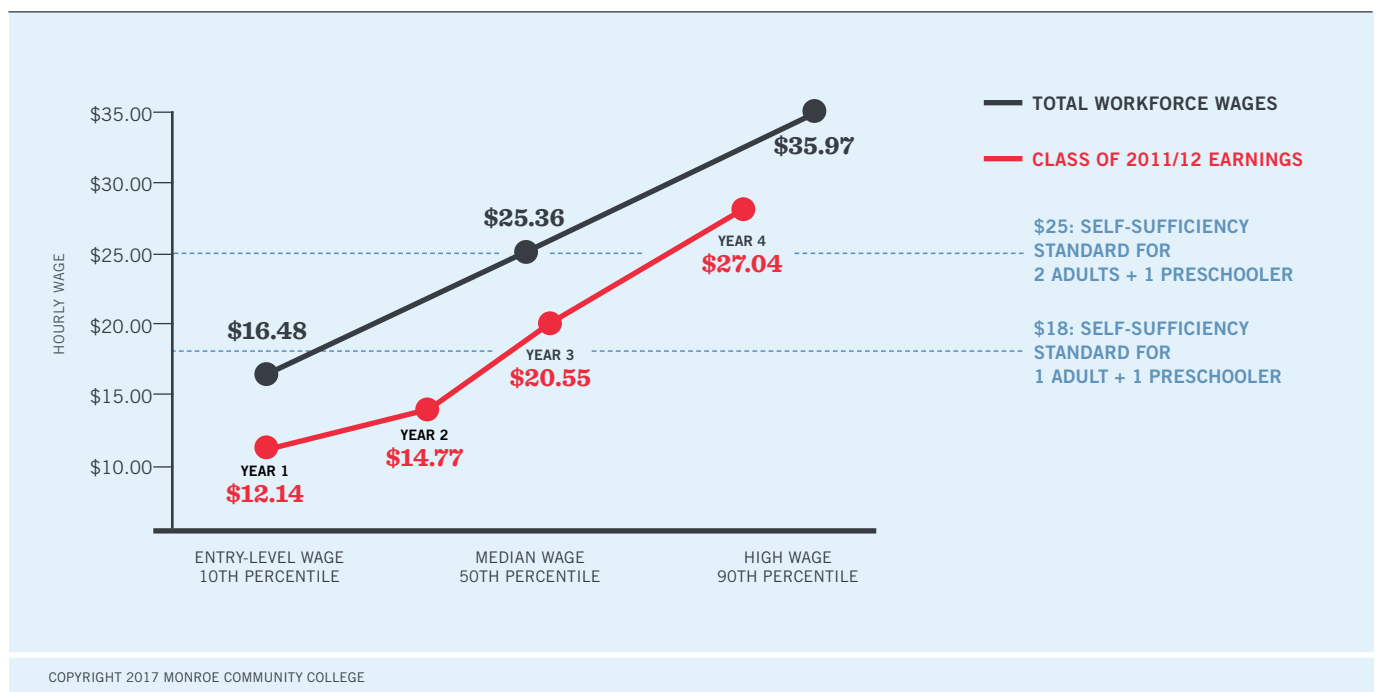
By using data to understand the biggest industries in the Finger Lakes region, Monroe Community College in Rochester, New York, developed a strategy to develop talent for middle-skills careers—those requiring more than a

FIGURE 1: IDENTIFYING TALENT GAPS IN TOOLING AND MACHINING

EDUCATION PROVIDER	COMPLETIONS, 2016-2017	ESTIMATED ANNUAL JOB OPENINGS	ESTIMATED GAP
Finger Lakes Community College	21	922	-748
Genesee Valley Educational Partnership	48		
Monroe 1 BOCES	5		
Monroe 2 Orleans BOCES	7		
Monroe 2 Orleans BOCES-Center for Workforce Development	5		
Monroe Community College	43		
Wayne Finger Lakes BOCES	45		
TOTAL	174		

high school diploma but less than a bachelor's degree. By examining skill gaps, as well as the timeframes within which workers were needed, MCC worked with employers to develop traditional and new approaches to credential attainment. For instance, as *Figure 1* shows, the college determined that the seven local colleges and high schools offering training in precision tooling and machining were producing less than one-fifth the workers the industry needed to fill open jobs. In response, the college created an accelerated version of an existing certificate that resulted in timely development of graduates for good jobs with proven demand.

MCC has also examined earning trajectories to make students aware of approximately how quickly—or slowly—their earnings might be expected to rise. In mechanical engineering technology, for instance, median wages more than double four years after entering a related industry. Below is a five-year median wage analysis for MCC's mechanical engineering technology graduates.

FIGURE 2: EARNING TRAJECTORIES FOR MECHANICAL ENGINEERING TECHNOLOGIES AT MCC

Such analyses are especially important and timely in the context of “guided pathways” implementation. Over the past several years, many community colleges have been engaged in comprehensive reform efforts centered on developing clear program maps and aligned advising structures.¹³ For guided pathways to succeed, it is essential that colleges prioritize the development of maps for workforce (and transfer) programs that are connected to strong post-graduation results for students.

Assess who’s being left out

Given persistent national inequities in who accesses educational and economic opportunity, colleges must examine which segments of the population they are serving and who is being left out. How does the makeup of the student body compare to the region’s demographics, disaggregated by race, ethnicity, income, and other factors? Do students underrepresented at your institution have equitable access to other regional community colleges or nearby four-year colleges and universities? Do the students enrolling in and graduating from the programs that lead to the best-paying jobs reflect the region’s demographics and the college’s student population? Are growing population groups well-represented? Answering these questions can help to ensure that offerings sustainably connect both sides of the equation: the current and future talent pipeline and burgeoning economic opportunity.

For leaders at North Dakota State College of Science (NDSCS) in Wahpeton, demographic data showed that hundreds of recently arrived refugees were languishing at the edges of the economy at the same time regional employers were unable to fill jobs. “We were serving our traditional populations well, and our top programs were even attracting students from out of state,” said President John Richman. “But meanwhile, we had people right next door who weren’t coming through our doors.” After recognizing this gap, NDSCS responded with programming that combined high-demand technical training with embedded English language training.

For Valencia College, this analysis revealed a disconnect between who the college primarily served and who most needed its help. The college had a major focus on traditional college-age students. Yet research showed that traditional high school graduates only represented approximately 13,000 people in a region of approximately 280,000. Meanwhile, reports showed that 43% of households in the area could be classified as working poor. “Low-wage adult workers outnumbered even the most optimistic projections for K-12 graduates by the thousands,” President Sandy Shugart said. “It made us realize, we’re not going to change this region at scale with so much of our focus on K-12.”

Valencia’s vision of creating pathways out of poverty has meant redefining who the college serves, across all divisions—credit and noncredit, technical and liberal arts. Leaders recognized that Valencia had to, in President Shugart’s words, “serve the whole ladder” of income and opportunity in the Orlando region, from K-12 students looking to use the college as a pathway to a bachelor’s degree to low-income adults who are looking for a quicker path to a better life. To serve these very different talent pools, Valencia crafted strategies for each rung on the ladder: high-skills pathways that lead students (particularly those recently out of high school) directly into bachelor’s programs, middle-skills pathways that include advanced technical and bachelor of applied science degrees that lead right into high-demand jobs with strong wages, and pathways through short-term training programs that lead central Floridians out of low-wage work like hotel housekeeper into better-paid, skilled jobs—such as mechatronics and transportation logistics—in a matter of months or even weeks.

¹³ Bailey, T., Jaggars, S., & Jenkins, D. (2015). *Redesigning America’s Community Colleges: A Clearer Path to Student Success*. Boston, MA: Harvard University Press.

When jobs are scarce, innovate

For some colleges, especially those in rural areas, analyzing the region's economy and demographics highlights a discomfiting, though often unsurprising, reality: There are not enough jobs nearby, or not enough well-paying ones, to match the employment needs of students and graduates. Some community colleges have been able to mitigate these circumstances, however, with practices that have resulted in greater opportunity for students and stronger communities. Among the key strategies:

Rethink the service area. Community colleges, especially those in economically depressed or sparsely populated regions, often find themselves preparing students for jobs outside their community. Graduates may find agriculture jobs nearby, for example, but others must leave for information technology jobs in urban communities elsewhere in the state. Some strategic college leaders have found creative ways to redefine their service area, connecting to economic hubs and identifying skills gaps there to expand opportunity for students. For example, a 2011 study by the George Mason University Center for Regional Analysis projected demand in northern Virginia for 300,000 scientific and technical job vacancies through 2020 and cited the skills shortage as “the principal threat” to the region's economic vitality.¹⁴ At the same time, the area was home to 500,000 low-wage workers and unemployed adults who lacked postsecondary credentials. But the jobs were up to an hour west of the population centers, outside the public transit corridor. So Northern Virginia Community College built a regional consortium to train these workers for IT jobs that could be done remotely, supporting business growth in one region and socioeconomic mobility in another.

Consider new programs and curriculum. Companies don't move to locations that lack talent in their field. But without employment opportunities, colleges may be reluctant to invest in skill-building. Some forward-thinking colleges have joined forces with employment sectors to develop or expand programs as a way to recruit new businesses. In 2012, the information technology company Mindtree brought hundreds of jobs to Gainesville, Florida, despite attractive economic incentives elsewhere, because of Santa Fe College's willingness to quickly develop coursework aligned with the firm's needs.

But should a college develop programs when there is less clarity about where the industry is headed and how many jobs might be available? Building new programs under such circumstances comes with risks, said Robert Templin, former president of Northern Virginia Community College and a senior fellow at the Aspen Institute. “Ultimately, even with the most rigorous and thoughtful labor market research, leaders will have to accept a degree of uncertainty about where jobs in certain fields are heading,” Templin said. “But inaction will surely result in stagnation and out-of-date programs. So leaders need to make a decision, understanding that some investments may not pay off, and anticipate and plan for setbacks.”

Build for future opportunities. As agricultural production declined in eastern Washington in the late 1990s, Walla Walla Community College examined economic trends and its own assets, then established a suite of programs that met employers' existing needs and anticipated and created new opportunities. The college adapted its auto maintenance program to include hybrid cars and added programs in water technology (because of projected water shortages), renewable energy (because of industry expansion on the horizon), and viticulture and enology (to take advantage of the fertile surroundings). The wine-making program has contributed to a massive expansion of local wineries, from seven to more than 200, and millions of dollars in revenue each year resulting from tourism.¹⁵ ■

¹⁴ Fuller, S. & Harpel, E. (2011). *Workforce Trends In and Occupational Forecasts for Northern Virginia, 2010-2020*. Arlington, VA: George Mason University Center for Regional Analysis.

¹⁵ Wineries. (n.d.). Retrieved from <http://wallawalla.org/wineries/>

THE CHALLENGE OF LOW-WAGE WORK

MOST community colleges have programs that lead to jobs that will never offer graduates stable employment or pay much higher than the minimum wage. These programs pose a moral and pragmatic challenge when one considers many of the strategies outlined in this playbook for aligning offerings to strong labor market opportunities. Many, like cosmetology, have strong enrollment. And many, like home health care and early childhood education, are in fields that have significant social and community value. Should colleges committed to ensuring that graduates have strong labor market outcomes continue to offer these programs, or not?

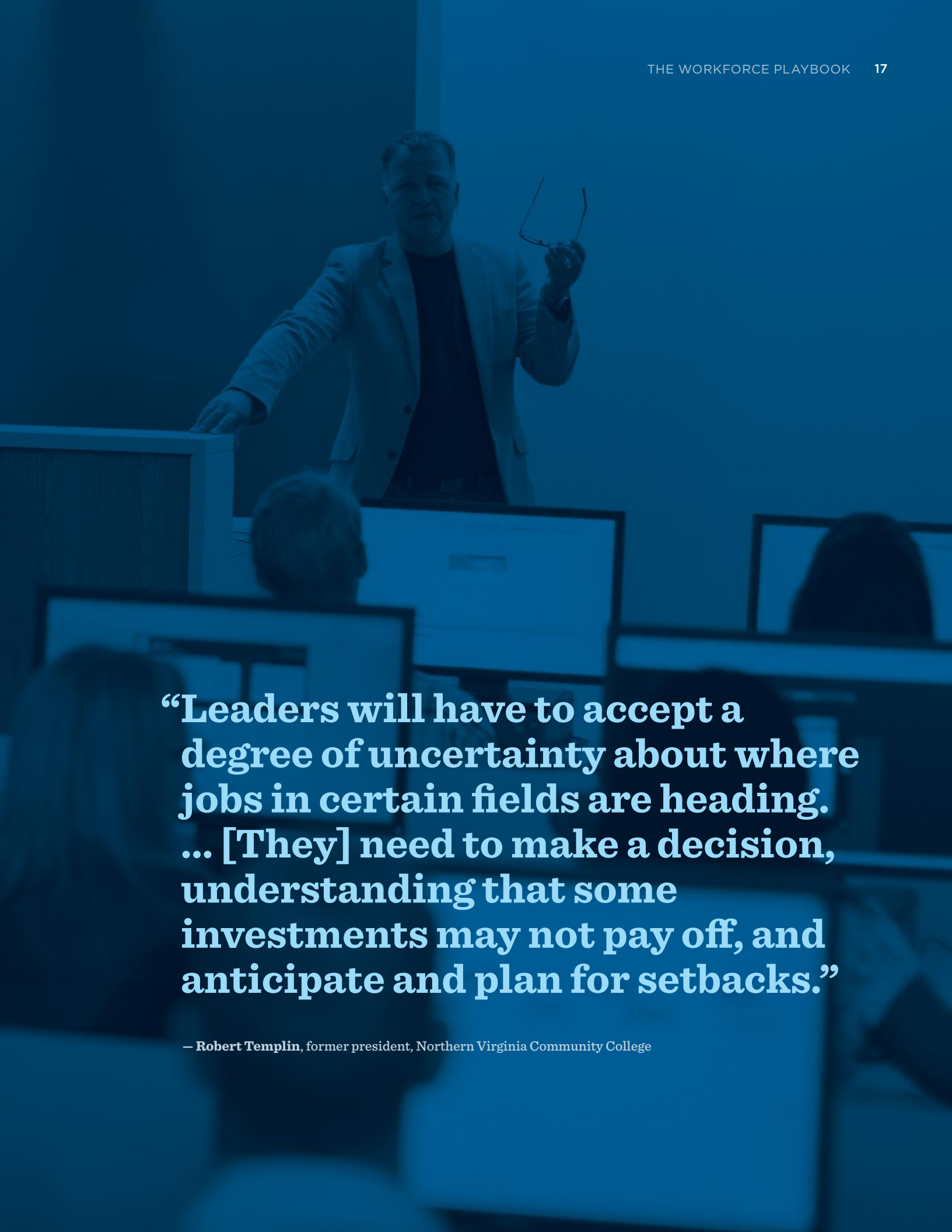
Some institutions have addressed this issue by negotiating with employers to improve the quality of jobs in these fields. As providers of talent, community colleges often have negotiating power.

Some college leaders have used this leverage to convince employers to provide greater benefits, such as health care and continuing education funding, or have offered additional skills training at the college in exchange for higher entry-level wages or accelerated career ladders.

Another strategy is for college leaders to help employers understand when their jobs are not competitive, by sharing with them which industries and companies are competing for the same workers and at what wages. A food manufacturing company with plans to build a new facility in the Rochester area contacted Monroe Community College to gain a better understanding of the competition for workers they would face upon opening the facility.

MCC provided an analysis of like companies in the area, the type of workforce they employ, and typical wages for workers with similar levels of education and training. This understanding prompted the company to consider higher wages in order to compete for workers.

Students who are interested in jobs with great social value, like early childhood education, may ultimately accept the earnings tradeoffs in exchange for other benefits, including an alignment with their sense of purpose and general interest in the field. However, it is particularly important for advisors to be transparent about typical wages for these jobs so students can make fully informed decisions. And exceptional colleges find ways, where possible, to help students understand and even plan for career pathways in related fields. They make clear to students the opportunities for continuing education—in this case, perhaps going on to earn bachelor's degrees in teaching or child psychology—for which shorter-term credentials, combined with work experience, may provide a strong foundation. ■



“Leaders will have to accept a degree of uncertainty about where jobs in certain fields are heading. ... [They] need to make a decision, understanding that some investments may not pay off, and anticipate and plan for setbacks.”

— Robert Templin, former president, Northern Virginia Community College

Domain 2

DELIVER
HIGH-QUALITY
PROGRAMS
ALIGNED
TO REGIONAL
NEEDS

As crucial as it is for colleges to offer the right menu of programs, the quality of programs is just as important. All community colleges have established processes for the development and periodic review of their programs. What distinguishes colleges that achieve exceptional outcomes is that these processes are not just organizational routines. Rather, they are designed and implemented as strategic opportunities to deepen faculty and employer engagement in students' learning and to continually revisit how well programs are meeting the needs of students, employers, and the regional economy so that programs are continuously improved.

Colleges with high-quality workforce programs and excellent outcomes have built intentional, effective systems to:



Execute a rigorous program approval process aligned to the college's vision

As the regional context changes, so will the menu of programs a college offers. The program approval process through which colleges make decisions about what to add must be strategic. It should not be an ad hoc approach that occurs only when a new idea bubbles up, but, rather, an ongoing cycle wherein leaders examine critical data on labor market trends and make decisions about if, when, and how to develop new programs aligned to regional needs. Effective colleges set clear standards that ensure that any new additions meet the needs of employers and populations, and they design efficient processes that enable responsiveness to emerging trends.

Northeast Wisconsin Technical College has built a highly structured and timebound program approval process that enables the institution to keep pace with the ever-changing needs of the region. Librarians create a series of 200 reports every year on specific labor market trends using data from Emsi and Burning Glass that match occupational data to educational programs and fields. With those data in hand, program and department heads are given a finite amount of time to determine which new programs, if any, should be seriously considered and approved. Clear timelines help program leads stay on track, and clear steps provide predictability and internal efficiencies. Tracking tools enable everyone to see where things stand in the approval process and whose turn it is to take action.

At San Jacinto College in Houston, new programs are considered only if these questions can be answered with a strong “yes”: Is there employer demand for graduates? Are the jobs this program prepares students for located in this region? (Most San Jacinto students are unlikely to seek remote job opportunities.) Do the jobs provide a living wage? Must students have this training and credential in order to get these jobs?

Like San Jacinto, excellent community colleges focus their program design with an eye to not just needed skills, but also sustainability, equitable student access and success, and, ultimately, alignment to the twin goals of economic mobility for students and talent development for employers. To achieve these goals, program approval processes should be informed by data and conversations in several domains:

Program approval processes should be informed by data and conversations in several domains:

Structure. Given the student populations that are most likely to enroll in and stand to benefit most from a program, what are the key design considerations with respect to time of day, length of courses, online versus in-person instruction, and work-based learning components? Does block scheduling or cohort progression make sense?

Location. Where do the people live who most need access to the opportunity a program would provide, and who are most likely to enroll in it?

Credentials. What configuration of courses and other educational experiences best addresses the skills employers need? What credentialing strategy will ensure long-term learning and employment opportunities for students and provide employers with industry-accepted signals of learning on which to base recruiting and hiring?

Scale. Which employers are likely to be invested in the program, and how many job openings are they likely to fill with program graduates? What resources are required to get a program up and running? What's the timeline?

Cost. What is the right cost to students and employers, given the return on investment to each and delivery costs for the college?

Alignment to mission. Do the value of the credential to students and the benefit to the community align to the college's goals for fostering socioeconomic mobility and talent development?

Effective programs are carefully developed to shape efforts around potential students and employers. Recent approaches at two colleges—**Valencia** in Orlando, Florida and **Clark State Community College**, in Springfield, Ohio—demonstrate how distinct visions, and therefore distinct talent development strategies, manifest in the design of every programmatic detail.

VALENCIA: Developing the talent of high-need adults

Valencia College's previously mentioned program to connect low-wage workers to better opportunities was designed to solve a specific need: Minimum-wage employees often can't forgo income for long enough to complete an associate degree, while thousands of better-paying jobs go unfilled because employers can't find qualified candidates. The college dramatically expanded its industry-recognized certificates in fields such as carpentry, mechatronics, and medical assisting through the Accelerated Skills Training Program, which included these carefully considered features:

Credentials of value. To ensure that training leads to economic mobility, all Accelerated Skills Training programs yield industry-recognized credentials that have real value in the labor market; they all deliver wages averaging \$13.38 to \$21.25 per hour and have clear ladders to higher earnings.

Short timeframe. Programs are six to 22 weeks long, making completion more feasible.

Cohort model. Students progress with a community of peers who face similar challenges and encourage each other.

Multiple start dates. Programs operate on a rotating cycle throughout the Centers for Accelerated Training.

Multiple locations. Valencia offers the programs at several locations, even including mobile sites, to make it easier for students to attend and to enable Valencia to target outreach and access to those segments of the community least well served by traditional college programs and most in need of alternative on-ramps to postsecondary training.

CLARK STATE: Allowing students to step out and come back in

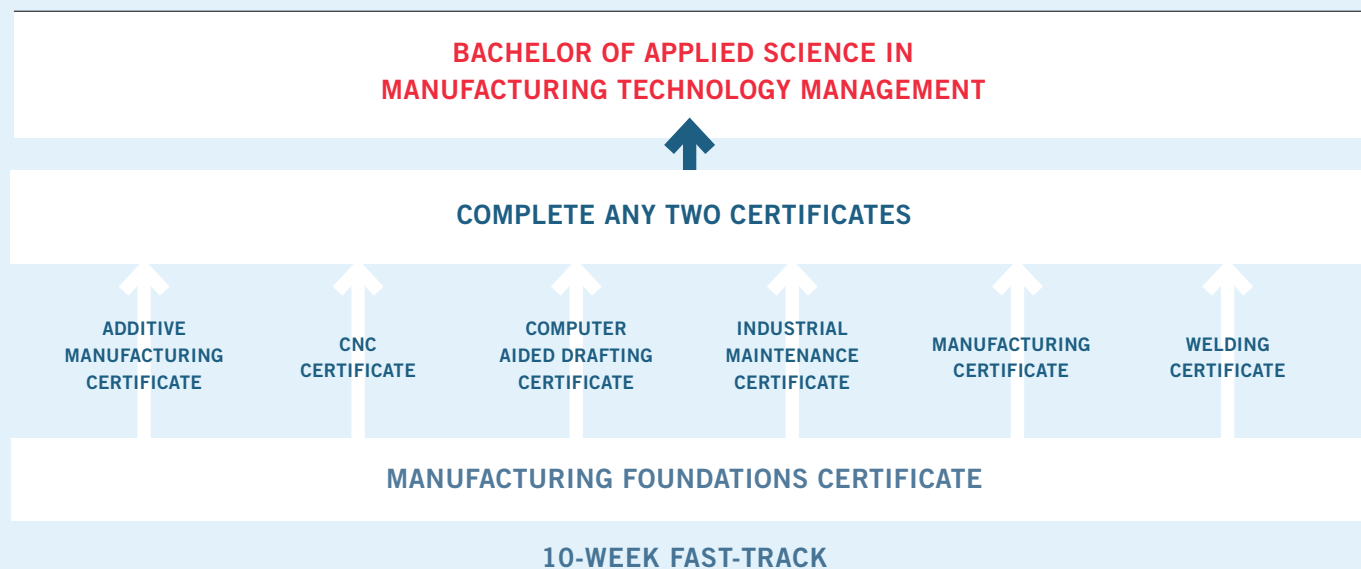
Clark State Community College students pursuing advanced manufacturing credentials were struggling: They needed the education, but they needed to work and earn money, too. The college mapped manufacturing credentials to rungs on a career ladder in a way that allows students to more easily move between the workplace and the classroom without losing time or credits. It also provides employers a steady talent pipeline at all levels of the organization. Clark State designed the program to include these features:

Employer-guided levels. College leaders and manufacturing employers mapped out the distinct steps employees could take, from entry-level to management jobs, and the skills required at each interval. Clark State then designed program pathways to allow for strategic on- and off-ramps aligned to these steps. For example, a student can complete basic noncredit training, then work for several months, then come back for a certificate to attain the skills needed for a promotion.

Pathway to a bachelor's degree. The program is designed so that students can step on and off the ladder without losing credits. Noncredit coursework—starting with a 10-week training—articulates to credit-bearing certificates and associate degrees, which, beginning in fall 2019, will articulate to a bachelor's of applied science offered at Clark State.

Gradually specialized training. To account for the fact that manufacturing requires diverse skillsets and has many potential career paths, students can start the program with more generalized skills training, then move through specialized certificates that offer routes to different job opportunities. The college is in the process of adding the ability for students to cap their training with a management-focused bachelor's degree.

FIGURE 3: MANUFACTURING LADDER AT CLARK STATE



Though this approach is only three years old, early outcomes are promising. Students have completed 50 certificates, and one-third of these students have already gone on to pursue Clark State’s pathway to the manufacturing technology associate’s degree. This approach recognizes the realities of students’ lives and adjusts delivery models and curriculum accordingly. Such strategies can be part of an equity-focused redesign: Rather than trying to alter students’ behaviors to fit existing college credential offerings, Clark State has fundamentally changed its delivery models—including its business processes and revenue structures—to create equitable pathways aligned to real economic opportunity.

**Define needed skills, then credentials,
in collaboration with employers**

When developing programs, colleges that start by taking a careful approach to defining needed skills with employers are more likely to accurately identify the best credentials through which to deliver those skills and are, in turn, better positioned to do what they do best: build strong curriculum and effective program delivery. The starting point is to include employers in the institution’s

curriculum development process (DACUM, or “developing a curriculum”) to define the skills students need to learn.

College leaders must be aware that employers’ assumptions about the credential they want the college to produce may or may not be the best choice for students, the college, or even the employer. Oftentimes, employers do not know the full span of credentials that a college can offer. They may not, for example, understand the implications of offering credit versus noncredit coursework. Or they may request an associate’s degree program simply because it is the community college credential they are most familiar with, even if the skills they require can be taught through a shorter certificate program that is ultimately more affordable for students. Or they may not understand the value of ensuring that associate’s degrees are well-aligned to bachelor’s degree programs that could equip some students with management-level skills the employer also needs.

For this reason, strategic program development begins by engaging people from different parts of the employer’s organization to develop a deep understanding of what skills are needed. Frontline managers can speak to the technical and soft skills they require of their employees. Current workers can describe the learning curve involved

NONCREDIT COLLEGE DIVISIONS: ORGANIZING FOR INNOVATION AND COLLABORATION

Most community colleges offer noncredit workforce education, but the structure they use to manage that function varies. Some have developed separate corporate colleges, independent from credit workforce programs, while others have chosen to integrate noncredit and credit programs within the same division. The structure chosen often favors one of two values: innovation and responsiveness to employer demand on the one hand and collaboration and student mobility within the college on the other. **Whatever structure a college chooses, here are a few considerations that can be kept in mind to strengthen credit and noncredit offerings within the same institution:**

Which workforce talent needs in the region can and cannot be readily met through credit-bearing programs?

Which populations and students are and are not well served through credit-bearing programs?

Would a freestanding noncredit division within the college be more likely to develop programs that respond to those needs and populations?

What specific programming and inclusion goals would result from having a separate unit, unencumbered by traditional processes?

Are the college's workforce programs adequately responsive to employer needs?

Can they adapt quickly enough as skills needs change? If not, would a separate noncredit unit help?

Are students able to move between noncredit and credit-bearing courses?

If not, what are the equity implications? Would integrating the two functions under the same governance structure promote greater mobility from noncredit to credit? Would that promote equity for students of color and lower-income students?

Are there lessons that credit and noncredit programs can learn from one another? Regardless of structure, are there systems in place to promote professional development across units?

Do the credit and noncredit divisions view one another as competition? Regardless of structure, what can be done to increase an understanding that both are part of a single college mission, offering different (not competing) paths to social mobility and talent development? ■

in moving from new employee to experienced worker. And human resources and hiring managers can provide insights into the range of skills needed across different jobs, common shortfalls among people they choose not to hire, as well as information about why employees might struggle, leave, or be let go.

By visiting work sites, program leaders, faculty, and staff can observe firsthand what will be required of future graduates. Experienced community college leaders say site visits reveal details about skills that employers may not have realized are important, such as working as part of a team or training fellow employees on equipment.

The rubber meets the road in conversations between employers and college teams. Employers note that the best college partners know how to guide discussions to get to the level of detail needed to move programs from good to great, and how to push employers to rethink assumptions. Lessons from exemplary colleges offer key insights about how to most effectively bridge the articulation of employer need with a program design that best suits both employers and students. For example:

Don't focus only on the skills profile for entry-level workers, especially in growing industries.

- > Do consider the skills graduates will need to advance in their careers and help expand the business, and push employers to think about how they meet those twin goals by training incumbent workers.

Don't assume everyone at the table has the same understanding of terms like "soft skills" or "professional skills" or that employers have a specific definition of what they seek in this regard.

- > Do get specific about the skills employers want graduates to attain. Push employers to think about how those skills might be defined and assessed, and how they can help teach those skills through workplace learning opportunities.

Don't make quick assumptions about student eligibility requirements.

- > Do think carefully about available talent pools and help employers understand the range of people who may be interested in the program. Question which barriers to program entry are truly correlated with prospective students' ability to succeed. Grade-point average, for example, may turn out to have little effect on employee effectiveness—and deter prospective older adults—while security clearance requirements may be nonnegotiable.

Don't take employers' statement of program or credential needs as given.

- > Do have a conversation about the concrete skills and abilities employers need, and share with them different strategies for delivering those skills. Anchor those conversations in the best available data showing trends in employment openings, salaries, and credential production from colleges and universities in the region. For example, while an employer may ask for a new associate's degree program, the skills they require and wages they plan to offer may actually align with an existing certificate program.

When Honda and Columbus State Community College initially developed a cooperative education and work-study program in manufacturing, Honda asked to include a minimum requirement of 3.0 GPA in high school, and Columbus State agreed. The threshold has since been dropped to a 2.5 GPA. "Like in many occupations, we found that a high GPA in high school does not always correlate to high performance on the job, and we did not want to create a barrier that eliminated quality candidates in this competitive job market before they could be properly evaluated," said Scot McLemore, manager of talent acquisition at Honda.

A NOTE ON INDUSTRY- (AND COMPANY) RECOGNIZED CREDENTIALS

COLLEGE LEADERS often use DACUM processes to understand which industry-recognized credentials or certifications should be embedded in career and technical education programs to increase graduates' employability and move them toward higher wages and increased job security. They also engage employers in conversations around how to ensure students are successful in attaining those credentials. For example, if an employer wants all students to pass a certain industry test before graduation, how might leaders design a program to ensure that the added cost of the test does not become a barrier to employment for lower-income students?

Cultivating awareness of available employer-created credentials can also help colleges stay on top of industry trends. For instance, dozens of colleges have begun to partner with major technology companies to deliver information technology credentials that have been largely created by the companies themselves. Leveraging the national nonprofit Jobs for the Future as a facilitation partner, Google has collaborated with nearly 25 community colleges, including Cuyahoga Community College in Cleveland and LaGuardia Community College in New York, on the Google IT Support Professional Certificate. The certificate is an industry-driven credential that is officially recognized by several employers, including Bank of America, GE Digital, H&R Block, Hulu, Smucker's, Sprint, and Walmart.

City Colleges of Chicago recently announced a similar partnership with Facebook that will make use of Facebook's online learning tool, Blueprint, and Amazon Web Services launched an information systems technology degree program with a cloud computing specialization with Northern Virginia Community College in 2018.

These corporations and colleges found that it was more efficient for the companies to map and update curriculum themselves to keep pace with the ever-evolving skills needs for technical jobs. But they rely on the colleges to deliver instruction and consult on pedagogy. ■

Clarifying “professional skills”

Students at Northeast Wisconsin Technical College were trained well by faculty from industry, had access to top-notch equipment, and were graduating with the required technical skills. But they were showing up late for work. They weren’t sure how to deal with conflicts with coworkers or how to ask for help from supervisors.

NWTC leaders looked around for an answer. They weren’t satisfied with how they saw some other colleges addressing professional skills (also commonly referred to as “soft skills”), through generic approaches focused on “communication skills” and “teamwork.” So they talked with employers across industries, pushing them to be specific about what soft skills graduates really needed. They translated what they learned into concrete instruction for students. For instance, they instruct the students that if they are going to be absent from class, they should call—not text—the instructor ahead of time. Rather than telling students they were expected to display “problem-solving skills,” they teach them explicitly to offer opinions, ask questions, and provide answers proactively during clinical rotations and while in class. This specificity helped students understand the need to take initiative with communication and become comfortable with expressing ideas amidst uncertainty.

In the end, NWTC developed a “modeling responsible behaviors” rubric aligned to the needs of employers and specific enough to be actionable for faculty across programs. Each year, employers are asked to provide NWTC leaders with feedback on the rubric. How are new graduates performing on each measure? Are there skills that should be added or adapted?

Top-performing workforce programs like NWTC’s adapt general competencies to more specifically align with employer needs, then leverage classroom activities to ensure students practice these skills. They ask what success looks like on the job, then figure out what the proxy is for that in the classroom. Here are a few examples of how programs have used specific, contextualized definitions of routinely demanded general soft skills to guide their approaches to teaching and learning:

“Teamwork” → Students can give and receive critical feedback with respect. Valencia College’s cybersecurity program includes multiple team-based projects and competitions. At the conclusion of each project, students must engage in a peer review that includes giving and receiving oral and written feedback to all team members. This allows students to get accustomed to critical feedback and prepares them for difficult workplace conversations and challenging team dynamics.

“Communication skills” → Students can translate technical information into easier-to-understand terms for a variety of audiences. At Ozarks Technical Community College, students in the dental assisting program are videotaped through mock patient interactions, then engage in a self-critique that includes exploring how they communicated with patients who were unfamiliar with or scared of dental procedures.

“Professionalism” → Students wear workplace-appropriate clothing. In classes at Lake Area Technical Institute, students are required to wear program-specific uniforms that reflect the professional standards of the careers they hope to enter after graduation.

Include meaningful work-based learning in program delivery

The best workforce programs incorporate meaningful work-based learning experiences, where students can learn and apply skills in a way that is as close as possible to the on-the-job experience. Programs most lauded by employers are those that thoughtfully integrate work-based learning opportunities into program design, require that every student participate, and ensure that work-based learning is delivered through high-quality instruction.

It can be expensive, for both the college and the employer, to provide the up-to-date equipment and worksite mentors important to authentic learning. However, there is a growing understanding of the importance of work-based learning collaboration, and funding for it has gained steam at the federal and state level. In 2018,

the U.S. Department of Labor announced \$150 million in grants aimed at scaling apprenticeship programs. And states have undertaken various policy and funding initiatives to support work-based learning. A report by the National Skills Coalition said that as of 2017, 35 states had established policies explicitly supporting work-based learning, and 18 provided subsidies to encourage employers to participate in these partnerships.¹⁶

Work-based learning can take a variety of forms, depending on the college and employer capacities. Much has been written recently about the apprenticeship model, a design

that allows students to “learn and earn” and provides direct pathways to employment, strong mentorship, and a clear talent pipeline for employers. While apprenticeships are one model for achieving these objectives, there are many ways for college leaders to integrate work-based learning into program design, and the best-fit option depends on a variety of factors, including employer capacities and the program’s teaching and learning goals.

Table 3 explores the range of work-based learning methods that successful programs have used to ensure their students graduate with relevant work experience.

TABLE 3: A SPECTRUM OF APPROACHES TO WORK-BASED LEARNING

	LESS INTENSIVE HANDS-ON, PROJECT-BASED LEARNING	CO-OPS, INTERNSHIPS, AND CLINICALS	MORE INTENSIVE LEARN AND EARN AND REGISTERED APPRENTICESHIPS
Description	At the college, equipment, projects, and classroom structures and expectations reflect what students will encounter in the workplace.	Students split their time between classroom learning and workplace-based training. Depending on the arrangement with employers, these may be paid or unpaid.	Students are simultaneously enrolled in college and employed at a specific company. They learn general skills for their trade in the classroom and employer-specific expectations on the job.
Resource Needs	- College instructor with technical expertise - Up-to-date equipment and facilities - Project-based curriculum	- College instructor with technical expertise - Employer mentor for on-site management - Dedicated time slots or specified projects for student training at the worksite	- College instructor with technical expertise - Employer mentor for on-site management - Contract for payment arrangements - Administrative support for navigating registration processes
Other Considerations	By mimicking the workplace environment, the college gives students the opportunity to practice technical skills, teamwork, and leadership in a fairly cost-effective and efficient manner. Advances in technology and simulation labs in a variety of fields have made it increasingly feasible to bring quality, hands-on learning into classrooms. Close, regular collaboration with industry is required to ensure that the classroom truly reflects the workplace. One challenge in such designs is developing review systems that ensure that often-expensive equipment is regularly updated, given rapidly changing technology.	These arrangements provide a good balance of education and experience, but they must be designed to account for business needs. Planning should include realistic discussions about ideal times for employers to host students (they may not want to risk productivity during peak hours), how to support employees who train or mentor students (especially if they are typically evaluated based on productivity), and how to collect feedback on the experience from employers and students.	These arrangements, which open doors to students who must earn money while attending school, appeal to employers with specialized training needs (such as on proprietary equipment) or evolve more quickly than colleges can accommodate. Since the start-up process for setting up a registered apprenticeship can require intensive investment from both employers and the college, some programs have started small, with just one or two apprentices, and grown as the return on investment becomes evident.

¹⁶ Wilson, B. & Mehta, S. (2017). *Work-Based Learning Policy: 50 State Scan*. Washington, DC: National Skills Coalition.

Leaders of the strongest programs studied across our research tended to consider the following when selecting their approach to workplace learning:

In what environment (classroom, simulator lab, worksite) are different skills and knowledge best taught? Who is best positioned to teach them—trained classroom teachers or current industry professionals?

What are existing employer versus college capacities? For example, do employers have the capacity to actively supervise and mentor students on-site?

Will all students be able to participate in work-based learning opportunities, or are some excluded by design? For example, if the primary model for work-based learning is a summer internship, will students be paid by the employer? If not, will this practice automatically exclude students who cannot forego summer income?

Answers to these questions can lead to creative work-based learning designs. For example, at San Jacinto College in Houston, maritime program leaders puzzled over how to teach hands-on skills well before students eventually participated in paid internships on vessels. Sending students out onto boats regularly was logistically difficult for employers, who worried about monitoring and teaching novice learners in an intense and sometimes dangerous environment, and for students, some of whom did not have the time and transportation to get to the docks. Working with multiple employers, San Jacinto devised an innovative solution: an on-campus simulation lab, outfitted exactly like the ships on which graduates would someday work, that enabled instructors to teach the important skills the students would use on a real vessel, and even some they wouldn't. For example, the simulation uses virtual reality to help students safely practice responding to challenging scenarios, such as managing a ship about to run aground. To build the labs, San Jacinto raised significant funds from industry partners, not as philanthropy but as a necessary investment in developing a well-trained talent pipeline. As a bonus, employers occasionally use the simulation to help incumbent workers refresh their skills.

Hire and empower excellent workforce leaders to guide strategy and implement programs

There is strong consensus among college leaders and employers that successful workforce program execution depends on having the right people in place at the college. There's also an understanding that hiring and professional development for career and technical programs is different than hiring for academic departments. Intentional human resource practices can ensure that leaders and program faculty have the right combination of pedagogical and technical skills and an aptitude for both program design and relationship management.

Hiring

Excellent workforce programs build several key qualities into their processes for hiring labor market leaders, faculty, and staff—through rubrics for assessing effective candidates, questions designed to uncover desired characteristics, and teaching demonstrations:

Industry experience. Candidates understand the perspective of employers, have workforce connections, and can help students make their way in the professional environment.

Customer-service orientation. Candidates understand the importance of delivering what employers and students want and need, and they can navigate or influence change in systems that stand in the way.

Focus on student outcomes. Candidates care about student success as much as they care about their profession.

Diverse backgrounds. Candidates reflect not just a college's existing student body, but the one that it desires if it is to attract and retain diverse students.

Effective colleges typically prioritize the hiring of talented workforce division leaders. These leaders are granted a wide range of responsibilities, including collaborating with other senior leaders on college-wide workforce and

institutional strategies; defining, with program staff, the skills and attributes graduates will need on the job; and assessing and continuously improving their units.

At Monroe Community College, Todd Oldham, the leader for workforce and economic development and career and technical education, holds a vice president role—one of four cabinet-level positions at the college. His role is multifaceted and strategic: In a typical month, Oldham may collaborate with municipal leaders on a pitch to bring a new company to town, meet with K-12 leaders to evaluate a program designed to channel low-income students into strong technically focused academic programs, and marshal longitudinal data to analyze the long-term outcomes of different technical credentials. “The president provides me with the autonomy to promote a vision for workforce development and set strategies and make investments that are informed by the labor market,” Oldham said. “This ultimately leads to the accomplishment of our goals, including an innovative, business-informed division staffing and financial structure.”

Similarly, at San Jacinto College, Allatia Harris serves as vice chancellor of strategic initiatives, workforce development, community relations, and diversity. Like Oldham, Harris is well-positioned to ensure alignment of San Jacinto’s labor market work with the college’s broader mission, vision, and strategies. In addition to overseeing a range of technical programs, Harris is always thinking about how workforce-oriented programming can play a role in fulfilling San Jacinto’s equity goals by giving diverse students a means of achieving economic mobility.

To persuade talented individuals from industry to enter the candidate pool, colleges need to appeal to their motivations while addressing concerns about pursuing a community college career. Often, people move from industry to higher education in pursuit of better work-life balance or, in many fields, less physically demanding work. The best individuals for career and technical positions bring something more: the motivation to give back to the professions and communities to which they’ve committed their lives. Thus, excellent community colleges aim to recruit executives, program leaders, and faculty who are

not just talented in and passionate about their fields but also driven by a service mission and the belief that a high-quality college and program can make genuine change for students and communities. “It’s an honor to be picked to teach this program at this college,” said Jason Nelson, a gas utility and construction faculty member at Northeast Wisconsin Technical College, who took a pay cut to teach. “It’s what you do when you’re not only great at your trade, but you’re a leader in your community.”

To recruit excellent candidates, strong workforce programs employ a range of strategies:

Just-right qualifications. Job descriptions should be scrubbed of unnecessary requirements. San Jacinto College had trouble recruiting faculty for its maritime program because job descriptions required a minimum number of years of “teaching experience.” Recognizing that mid-level mariners had experience training entry-level employees in the same kind of skills the program taught, the college changed the requirement to “training experience” and recruited a much stronger pool of qualified applicants. Recognizing that recent retirees might make excellent teachers for its petrochemical programming, San Jacinto College recruited them with this ad, which

FIGURE 4: AN EFFECTIVE RECRUITMENT AD

Leave a Legacy. Teach.
Help us train the next generation of petrochemical workers.

The Texas Gulf Coast petrochemical industry will need more than 50,000 new workers over the next decade — thanks to plant expansions and the retirement of “Baby Boom” generation workers.

Today, 39 percent of all oil and gas jobs are located in Texas, and account for 10.7 percent of all wages in the state. The average salary for petrochemical workers in Texas is \$99,700, according to the American Chemical Society.

Community colleges are expanding teaching capacity to train workers for these career positions, but we must have qualified instructors with “real-world” experience in the workforce who are willing to share their knowledge.

Without qualified instructors, these training programs cannot produce graduates fast enough to meet the growing demands for workers, and local industry will be forced to import employees from outside the region, leaving local residents out of this lucrative job market.

The best training for students comes from individuals who have recently worked in these careers and retain knowledge of current procedures and equipment.

Become part of a community partnership that gives back to the next generation through education.

Students who achieve higher levels of education increase their earning potential and employability. They are less likely to have poor health habits, commit crimes, or claim welfare or unemployment benefits. This translates into a happier, healthier, and more economically stable community (American Association of Community Colleges report).

calls to their sense of service and affirms their potential as effective educators. At the college's request, petrochemical companies distributed this pamphlet in packets given to all retiring employees.

Confidence-boosting messaging. Industry workers may not realize their potential value as teachers, so effective recruitment strategies emphasize how much the college and students can benefit from industry-aligned skills. Colleges can quell doubts among those without teaching experience by sharing how new hires will be supported in attaining the skills and credentials they will need, and by pointing out the ways they may already be educators in the workplace.

Use of networks to promote postings. Employer partners, current faculty, and alumni can help spread the word about open positions and the strength of a college and its programs.

Flexible work arrangements. Innovative work and funding arrangements can help colleges attract and keep talent. In high-demand fields, this may include salary subsidies or job-sharing with employers.

Professional development

Of course, it's not enough just to recruit talented industry workers with the promise of helping them become talented teachers. Colleges must make good on that promise with strong mentoring and support. Workforce faculty and staff need to engage in professional development, delivered internally or through training providers, in both pedagogy and program-specific knowledge. At strong colleges, professional development begins with an induction process that fills knowledge gaps common among people who arrive directly from industry.

At Northeast Wisconsin Technical College, every faculty member spends 40 hours annually in professional development, half of which is for technical knowledge and half for becoming a better instructor. Gateway Technical College, in southeastern Wisconsin, works with the National Coalition of Certification Centers, whose "master

instructors" train faculty from Gateway Tech and other colleges across the country, about the latest technical skills and certifications available in their respective industries. Step by step, they demonstrate on the latest equipment using industry-approved curriculum what it means for students to be able to meet each industry standard.

Matthew Janisin, Gateway Technical College's vice president of business and workforce solutions, said that faculty loved this training "because it was led by peer instructors from other colleges who worked with NC3 and their partnership companies that are well-respected in the industry. Since the NC3 trainers are full-time teachers in their regular day jobs, and not just industry people telling you about a new machine, they can actually model best practices in pedagogy and set a standard and expectation for the delivery of industry skills and certifications." NC3 master instructors, he said, "have empathy for new teachers. They are open to really basic questions ... that new teachers might be embarrassed to ask someone who has been in either academia or a specific industry all their lives."

Maintain program quality through honest and actionable feedback

Impactful program review

Every college has program review processes that incorporate analysis of data on student outcomes and employer feedback. But these processes are sometimes perfunctory routines, designed primarily to satisfy accreditation or institutional rules, when instead they can—and must—be powerful mechanisms to foster genuine improvement. Colleges must honestly assess the value of their review systems. How often do they result in significant changes in curriculum or program design? How meaningful is the feedback employers provide? (If it's always positive, chances are it's not honest.) How does the college learn about graduates' experiences on the job and use that knowledge to improve content and pedagogy?

Innovative colleges treat program review as a disciplined cycle of inquiry. It's not an exercise in box-checking every few years, but rather a constant, fundamental way of doing business to ensure continuous improvement. Exceptional practices include:

- Continuous process of program improvement where programs are reviewed and assessed annually, rather than once every three to five years.
- Engaging faculty (full-time and part-time), academic deans, program advisors, employers (advisory industry councils), and alumni to learn what skills and knowledge graduates had and lacked when they started their jobs.
- Analyzing data for the region instead of just for the college to learn whether other schools' graduates are competing to fill the same vacancies.
- Transparently presenting data to everyone engaged in the process, and using data visualization to enable everyone, including the less data-savvy, to access the same insights.
- Creating the structures to give, receive, and respond to honest and critical feedback.

Valencia College structures its program review for career and technical education programs to maximize the likelihood of continuous improvement. The process—of reviewing every program every year—starts with the standardized collection and presentation of data. With the help of Tableau software, outcomes for all programs are summarized in a dynamic dashboard that features easy-to-interpret data charts and graphs on important trends, including student demographics, enrollment, program retention and completion rates, and graduate placement and earnings. By clicking on various metrics, users can drill down to see outcomes disaggregated by student characteristics and other factors. The dashboard is available throughout the year to everyone internally, from senior leaders to faculty and advisors.

At program review meetings, a range of individuals are present to discuss the data. Faculty and program leaders

offer thoughts on course and program outcomes, employers reflect on trends in employment and earnings and their experience with Valencia graduates, and advisors—many of whom are embedded in specific programs to increase their understanding of student cohorts and employment contexts—offer perspectives on what might be impeding or enabling student success.

Valencia's process is rooted in several important characteristics: an annual cadence to create disciplined improvement, participation by all relevant stakeholders to ensure comprehensive input, and transparent presentation of standardized outcomes data to encourage candid assessment—all of which promote honest dialogue to identify meaningful opportunities for improvement. Through the intentionality of this review process—and a culture oriented to addressing challenges uncovered during program review—Valencia achieves exceptional graduation and employment results for students. As a result of this deep program review, Valencia has improved course success rates by changing course sequencing, become more collaborative and strategic in scheduling classes across campuses for college-wide programs, and developed capstone courses which encapsulate the key program outcomes that prepare students for their next step into the workforce.

Valencia's dynamic program review dashboard is sophisticated. But colleges don't necessarily need advanced interfaces to reap the benefits of data visualization. At Lake Area Technical Institute, a single staff member creates one-page documents with each program's key trend data laid out in eight simple graphs.

This dashboard for the diesel technology program offers key metrics about budget, capacity, and enrollment; tracks both student and employer satisfaction with LATI hires; and reflects labor market placement and earnings trends. It provides everyone at the college, as well as employer partners, an excellent starting point for assessing whether LATI is achieving its mission of providing “superior, comprehensive technical education that changes lives and launches careers.” The college can see, in this example, that employer satisfaction with the work skills of diesel

FIGURE 5: DATA DASHBOARD FOR VALENCIA'S ASSOCIATE IN SCIENCE PROGRAMS

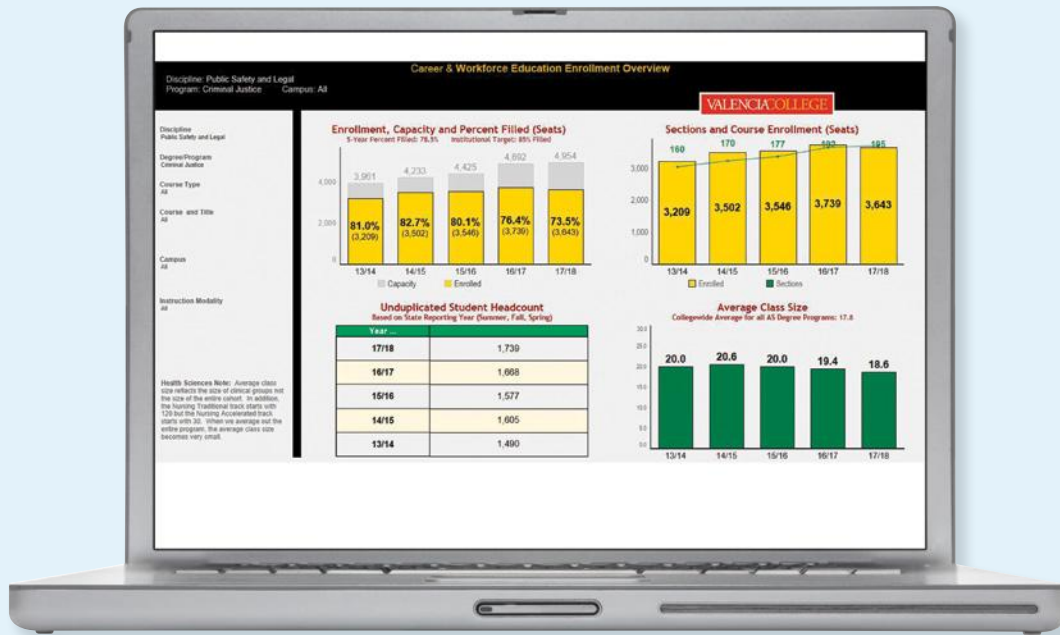
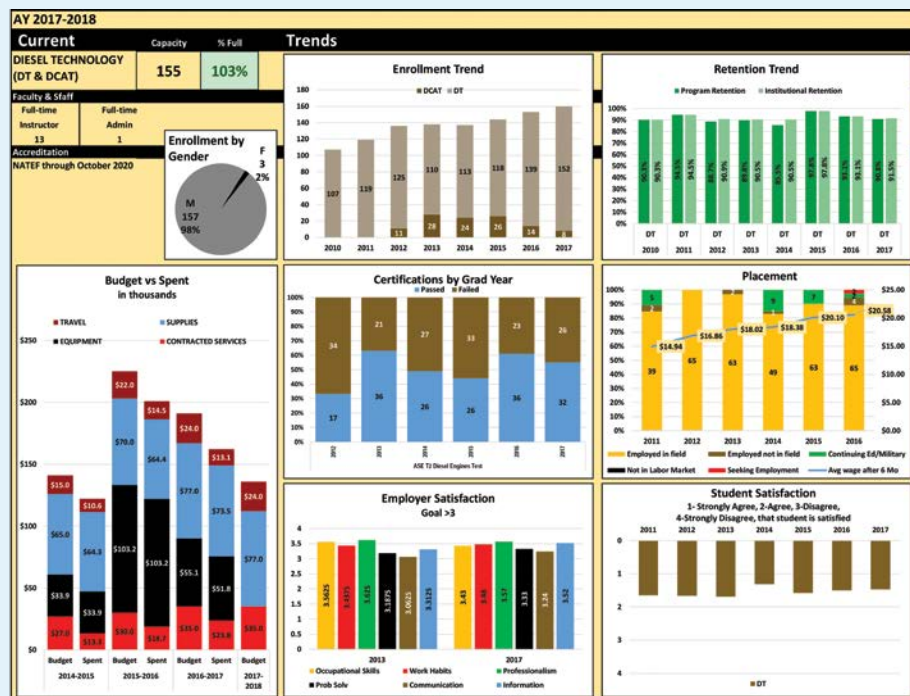


FIGURE 6: LATI'S PROGRAM DATA DASHBOARD IN DIESEL TECHNOLOGY



technology graduates has declined a bit over the years, while graduates have improved in communication. Employment and wages have increased, student satisfaction is largely steady, and the college has a ways to go to meet its goal of diversifying the male-dominated program.

The program review processes at LATI and Valencia were not developed overnight. At many colleges, faculty historically have ownership over program review, and cultures anchored in traditions of shared governance may not immediately accept a review process that includes a broader set of stakeholders or involves transparently sharing data. The development of such processes requires time to demonstrate to faculty and others that data on student outcomes—including those related to employment, earnings, and equity gaps—are being used for continuous improvement rather than punitive measures, and that striving for transparency and inclusive input leads to stronger programs and improved outcomes for students.

An important component of that culture shift is advancing data fluency among all stakeholders. When Valencia introduced its data dashboard, institutional research staff were deployed to provide training, answer questions, and help staff move from data to insight. At NWTC, time is carved out every fall and spring for a Student Success Data Day, when all faculty get together and dive into data. Institutional research staff help train faculty on what to look for, and faculty derive action plans based on what they learn.

Continuous feedback loops involving all levels

Colleges with strong student outcomes engage with industry advisors in ways that go well beyond formal advisory board meetings. Improvement comes from candid feedback (in both directions), which in turn requires strong, trusting relationships, cultivated through frequent contact. Many directors of effective workforce programs talk to industry advisors monthly or even weekly. Advisory board meetings are well-designed to include data review, an action-oriented set of goals, and a commitment to pursuing next steps for improvement, thus providing a focused time that connects multiple industry actors to the

mission of strong workforce development. In the end, valuable insights are gained from multiple sources: employers, students, frontline workers, and others.

Regardless of the process, much of the feedback colleges receive from employers regarding curriculum, alumni performance, and hiring and recruitment is channeled through program heads. When these relationships are well-maintained, the program heads and their faculty get candid, fresh insights that allow them to keep pace with a constantly evolving industry landscape. Likewise, industry—via frontline managers, human resources representatives, and others—can quickly access information about students, allowing them to fill talent needs quickly. At Lake Area Technical Institute, former president Deb Shephard paid special attention to the relationships between college program leads and industry advisory board members. When she sensed that the relationships were becoming so close that honest feedback might be difficult, she would actively recruit new advisory board members.

At North Dakota State College of Science, partnership-building is an explicit expectation. Department chairs are required to maintain regular communication with employers' frontline workers and HR managers to solicit feedback on how students are performing in the field and to learn about any new developments, such as the arrival of new machinery and anticipated layoffs. At LATI, which has built a cooperative two-year diesel mechanic program with Caterpillar, instructors routinely go out into the workplace to check on students doing field work, while Caterpillar managers seek out feedback from college instructors on any student they are thinking about hiring.

"If I don't believe a student will be a good fit for that particular employer, I'm going to say so," said Corey Mushitz, who supervises the program. Caterpillar trusts Mushitz so deeply that he has been asked to help author the company's national technician education curriculum. In turn, Caterpillar employees often visit LATI classrooms and help reinforce faculty messages about the importance of good attendance and study habits. "It means something more coming from an employer," Mushitz said. "I can say

‘Show up on time’ all day, but when you’ve got your future boss up there saying, ‘Hey, listen to Corey—I’m going to be asking him whether or not I should hire you’ ... that gets through.”

These relationships can also facilitate troubleshooting. Columbus State Community College realized that its Honda manufacturing program was failing to draw applicants even though there was a demonstrated workforce need, Honda was a respected employer, and prospective students seemed excited about the opportunity. Perplexed, college representatives held discussions up and down the company chain, during which they discovered that Honda’s job postings erroneously indicated that these coveted positions required a bachelor’s degree. “Why would a student choose to go into our associate’s program if they are being told in the job posting that they need a B.A.?” President Harrison said. Correcting this issue helped boost recruitment into the program.

Colleges with strong workforce programs also facilitate a regular flow of information from prospective, current, and, notably, former students. Not only does this help track outcomes, it can also give program leaders valuable feedback on the elements of their program that were most important to new graduates’ success, and which might be lacking. Alumni can also help set expectations among current students and, as trustworthy peers, serve as some of the most effective program recruiters, industry representatives, and champions for the college.

College leaders recognize that building these relationships with recent graduates is also an investment in long-term employer partnership. After all, many of these students will rise to leadership roles and become important decision-makers within their companies—and, with luck, talented faculty members and engaged advisory board members.

Effective advisory board meetings

Though advisory board meetings should not be the primary tool for feedback and collective employer engagement, strong workforce colleges find them valuable. With the right people in the room and trusting relationships, effective colleges have used these meetings to gain consensus around specific challenges or regional shifts, develop strategies for addressing talent challenges, and work through curriculum adjustments. To get the most out of meetings, program leaders must ensure that conversations are informed by data, structured thoughtfully around an action-oriented agenda, and result in concrete next steps for the college, the employers, or both.

Advisory board meetings are especially valued when they feature:

A focus on problem-solving and opportunities, not updates. Effective advisory board meetings may include some reports from the college and the industry, but most of this information should be shared ahead of the meeting. Everyone should know why they are attending the advisory board meeting and what the conveners intend to accomplish. The more concrete goals are and the more clearly they are rooted in common interests among the parties, the more likely the participants will be invested.

A diverse, rotating mix of attendees. While consistent, foundational members can serve as sources of institutional knowledge about a program’s evolution over time, other attendees should vary based on the questions and goals of a given meeting. Discussions about recruitment and retention benefit from the voices of students and graduates; those concerning program design and pedagogy require faculty and advisor voices; and agenda items centered on employment trends or workplace learning challenges necessitate the presence of line managers or hiring professionals from regional employers.

Follow-through. Between meetings, advisors should be kept aware of key developments so that meeting time can be used not to rehash past events but rather to strategize about the future. Another important form of follow-through is to periodically ask employer partners whether their time has been well-spent.

Respect for confidentiality. Surveys and conversations outside of the meeting can be useful, as some employers will not openly share perspectives or information in front of competitors. For example, an employer worried about competitors finding out that the company is downsizing may not want to openly disclose that they will demand fewer new hires in the coming cycle. It's up to the college program lead to devise ways to get relevant, sensitive information outside of the committee meeting.

Conversations about diversity and the talent pool.

While employers might have an ideal group of students in mind for their open positions, they also recognize that the workforce is changing. Research by McKinsey has also shown that more diverse, inclusive companies are ultimately more profitable.¹⁷ College leaders can play a role in helping employers better understand the perspectives and priorities of available talent in a given region, including veterans, single parents, and students from immigrant communities, whom they might not have otherwise considered as potential students or hires. Leaders can use advisory board meetings to help employers identify and name their diversity goals and then enlist them as champions for ongoing efforts to ensure a more robust talent pipeline. ■

“It’s an honor to be picked to teach this program at this college. It’s what you do when you’re not only great at your trade, but you’re a leader in your community.”

— **Jason Nelson**, gas utility instructor,
Northeast Wisconsin Technical College

¹⁷ Hunt, V., Prince, S., Dixon-Fyle, S., & Yee, L. (2018). *Delivering Through Diversity*. New York, NY: McKinsey & Company.

Domain 3

TAKE INTENTIONAL
ACTION TO SUPPORT
STUDENTS'
CAREER GOALS,
FROM
PRE-MATRICULATION
THROUGH
POST-GRADUATION

Few students arrive at college with a crystal-clear idea of where they're headed and how to get there. They may want to work in health care one day but not know, exactly, whether they would prefer to work as a medical assistant, lab technician, registered nurse, or physical therapist. They may have professional aspirations that turn out to fall far short of their income expectations or find that their initial career goals are actually misaligned with their personality traits or interests. Even those who have clarity about their direction may not know what programs to enter or courses to take or, once they're further along in their education, what steps to take to move from college into a career. Or, students—especially those who are the first in their families to attend college or come from communities where they weren't exposed to a broad diversity of professions—may simply be unaware of their career possibilities or how the talents they possess can link to a rewarding profession.

At excellent colleges, leaders strive to make their institutions conduits to economic opportunity, to ensure that opportunity extends equitably to all populations, and that their advisors and teachers are equipped to help build students' aspirations rather than constrict choices based on assumptions about interests or abilities. They reach out to diverse populations, especially those that are economically or socially marginalized. They help students of all backgrounds make informed decisions about their program of study, recognizing that even the most self-directed students may be basing their decisions on incomplete or inaccurate information. They make career guidance an integral part of the student experience rather than an optional resource, and focus career advising on helping students see the full range of their own potential options. And, ultimately, they do not see the student's journey as complete until that student is employed in a good job, earning a living wage. These colleges own the student experience, from before students matriculate until they attain a good job.

Colleges that support students effectively in these ways:



Ensure broad and equitable access to high-quality programs



Create onboarding processes to support productive program exploration and informed decision-making



Teach career and life skills throughout the student experience



Help students get good jobs

Ensure broad and equitable access to high-quality programs

The U.S. economy offers substantial economic opportunity. But that opportunity varies by region: One offers robust job opportunities in technology and hospitality, another in energy production and manufacturing. Equally variable are the populations that could be connected to that opportunity. The shape of demographic changes varies by region, with one area adding Hispanic populations, another adding Asians; one greying steadily while another is skewing younger. If the nation is to bridge existing skill gaps and improve economic mobility, populations that have been historically underrepresented will need to increasingly be brought in to the skilled workforce. Employers, noting this trend, are also increasingly demanding a diverse workforce more representative of the communities they are in, and of the customers they serve.

Excellent community colleges understand these trends, and design their recruiting and onboarding strategies accordingly, for the college as a whole and for high-value programs in particular. Those with large numbers of Black and Hispanic workers in their service areas and on campus understand the extent to which those students (and prospective students) are excluded from high-wage jobs and associated academic programs, both those that lead directly to good jobs and those requiring bachelor's attainment after transfer. Those with large numbers of individuals in low-wage work understand the need for upskilling incumbent workers. Those that serve areas with large numbers of individuals with no college education understand the particular challenges first-generation students face as they seek to explore educational opportunities.

Excellent colleges recognize the opportunity associated with educating underdeveloped talent, starting with an examination of access at an extremely granular level: Who, exactly, is enrolled in the programs that offer graduates a pathway to relatively high-wage careers? Overall completion rates and employment outcomes for students, even disaggregated by student background, can mask inequities

that have significant consequences: Research from the Georgetown Center for Education and the Workforce has shown that program choice can account for differences of up to \$3.4 million in lifetime earnings.¹⁸

Colleges that have measurably improved access overall while closing equity gaps in access to high-quality programs recognize that their outreach strategies are about more than just boosting enrollment numbers. Done right, outreach efforts combat information gaps, harmful stereotypes, and academic inequities—barriers that not only reduce the number of people who can be trained in high-skill professional programs, but also limit the overall diversity of the workforce.

To construct effective outreach strategies, leaders should ask three questions:

What talented populations are being underdeveloped?

To inform outreach, data can illuminate existing participation gaps. Answering two questions helps colleges understand opportunities to enroll and graduate “missing” students: Are the students enrolled in our programs reflective of regional demographics? Are local industries with good jobs having trouble attracting diverse workers?

Why are these populations missing?

Focus groups and surveys can provide insights into how different populations think about a specific program, the college, or higher education more broadly.¹⁹ But so too can less formal means. Several college leaders noted that they often converse with individuals working in low-wage jobs, asking them how they thought about work, what their goals were, whether they had considered additional training, and if not, why not. One community college went as far as to send staff to stand in a parking lot of a for-profit institution

¹⁸ Carnevale, A., Cheah, B., & Hanson, A. (2015). *The Economic Value of College Majors*. Washington, DC: Georgetown University Center on Education and the Workforce.

¹⁹ The Center for Community College Student Engagement has developed valuable resources on conducting student focus groups. See Focus Group Toolkit. (n.d.). Retrieved from <http://www.ccsse.org/focusgrouptoolkit/>

to ask exiting students why they hadn't chosen the community college instead. The students said they thought it would be too expensive (more than \$50,000) and that they might not be accepted—two assumptions that were far from the truth.

How do we reach them?

Some colleges advertise on radio or TV, often emphasizing the low cost of college or the flexibility of different course and program offerings. The Aspen Institute conducted a series of focus groups with unemployed and underemployed adults and traditional college-aged youths to explore what it would take for them to consider strong community college programs. Many deeply distrusted higher education advertising. Instead, they said, what would convince them to enroll would be the positive testimony of peers who had graduated, as well as employment and wage data demonstrating that a program would result in a good job.

At strong colleges, leaders work to understand the varied reasons prospective students—including prioritized target populations—are hesitant to enroll, and they refine and target their outreach accordingly. They understand that the most powerful messages are delivered through a combination of data and personal testimony tailored to particular audiences. Their messaging always uses student-friendly, concise, jargon-free language, in web pages, enrollment materials, and other communications. They consistently ask whether their messaging uses the right language and tone for prospective students, their parents, and others who influence them.²⁰

²⁰ Aspen's Messaging Toolkit contains a set of tools and resources to help colleges think about how different messages may resonate with unemployed or low-wage workers, while Advance CTE's materials provide insights into how to best reach more traditional K-12 student populations and their parents.

²¹ Gallup, Inc. and Strada Education Network. (2017). *Major Influence: Where Students Get Valued Advice on What to Study in College*. Washington, DC.

STUDENT VOICE SPOTLIGHT

While some students come to college with specific ideas about what they want to study, research shows that even students who have chosen a pathway may have incomplete or inaccurate information about it. A 2017 Gallup and Strada Education Network survey revealed that the most-cited source of advice when students choose a major is their informal networks.²¹ As a result, those whose acquaintances have relatively less experience navigating college—including many students of color and first-generation and low-income students—have less access to good information about the consequences of different program choices.

A community college graduate in the Aspen Institute's focus groups, a single mother in her mid-thirties, reported that a college advisor enthusiastically helped her register for a college cosmetology program without informing her of the realities of the job market. "You have to pay for your own products and tools," she said she later discovered. "You're on your feet all day. And you have to find your own clients. I wasn't even turning a profit until years after I got my degree ... I didn't know that was what it would be like when I started."

Today, this student pieces together multiple part-time jobs, struggling to make ends meet. She senses that further training would yield more stable employment, but doesn't think she'll go back to her local community college. She simply doesn't trust higher education anymore. And she's sharing her cynicism with friends and acquaintances, many of whom would likely benefit from skills training—if they could be connected early and intentionally to paths that lead to well-paying jobs. ■

DIFFERENT ASPIRATIONS, DIFFERENT OUTREACH

In 2014, Valencia College engaged in focused efforts to strengthen its outreach and enrollment strategies.

Student focus groups and surveys revealed important differences in how students learn about and decide among college options. Prospective students who proactively applied while in high school and older students who needed a call to action before applying had different reasons for deciding whether, why, and where to go to college.

The college then identified which mindsets were most prevalent in different areas of Orlando and placed billboard advertising accordingly. For adult learners aiming to get better jobs and concerned about earning money while in college, the billboards (including these on below) focused on the value of college, affordability, and the ability to work while enrolled. For high school students focused on enrolling right after graduation and taking advantage of Valencia's smooth pathway to the University of Central Florida, the billboards (including the one on the right) included aspirational messages focused on the application process and the prospects for transferring. ■

I Am College Ready.

Start Earning College Credit
with Dual Enrollment.

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family.

\$42,060 average annual
salary for A.S. grads.
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VALENCIA COLLEGE

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You can
afford
college.

Over \$180 million in financial
aid awarded last year.
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We say you can.

You can
work and
earn a
degree.

Evening, weekend and
online courses available.
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We say you can.

You can
get a
better job.

96% job placement rate
for A.S. grads.
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VALENCIA COLLEGE

We say you can.

Create onboarding processes to support productive program exploration and informed decision-making

Research shows that students are more likely to complete their credentials if they identify a career goal and choose the relevant program when they enter college.²² Excellent community colleges don't leave any of this decision-making to chance. They provide the supports and experiences to ensure that students make informed choices and are well-prepared to transition into the world of work.²³

What's more, they understand that which programs students choose matters deeply, and that often significant disparities exist in who has access to and completes high-value programs. Students come to community colleges with a broad range of life experiences that deeply impact how they think about their education, abilities, and career paths. The scope of what students believe to be possible broadens or narrows depending on the people they know, the opportunities they have had in the past, and the beliefs they hold about themselves and the workplace. They also come with differing levels of readiness for college-level coursework and technical expertise.

Without intervention, these differences may result in inequitable access to programs that lead to the strongest labor market outcomes. For example, a 2016 study by the Georgetown Center on Education and the Workforce found that of the 10 majors with the greatest representation of African American students, four were in the bottom 10 of

median earnings. A different kind of access gap is prominent in high-wage apprenticeships: In 2013, just 2 percent of construction apprentices were women.²⁴

To support students in making earlier and better decisions, and in helping to raise aspirations of all students, strong colleges work to strengthen onboarding experiences by building career awareness before students formally enter the institution and ushering new students through meaningful—often mandatory—career exploration and orientation. Intentional efforts to help students define their goals and the purpose of their education before and at entry, and to provide clarity regarding the steps they must take, can help ensure clear roadmaps that illuminate the credentials, courses, and learning needed for a rewarding career.

Pre-matriculation: Raising career awareness, lifting aspirations

Colleges that are especially effective at recruiting students while building in them a sense of purpose aim to impart an understanding about not just the college but its programs—and what they look and feel like. They use a spectrum of strategies, including those that engage partners from K-12 institutions to community-based organizations. They include:

Dual enrollment and early college high schools.

Colleges can build more robust and diverse pipelines to high-quality programs by embedding career and academic exploration into their dual-enrollment and early college programs, especially those that serve low-income students and students of color. NWTC's Turbocharge program—a K-16 partnership between NWTC, the Green Bay Area Public Schools, and the University of Wisconsin-Green Bay—gets K-12 students to begin thinking about their aspirations early on. Before high school graduation, students create academic plans to chart out their postsecondary pathway and earn 15 credits toward a college degree, credential, or certificate in high school.

“Try before you buy.” Hands-on program exposure can introduce prospective students to high-demand fields. For example, NWTC helps K-12 students engage in hands-on,

²² Jenkins, D. & Cho, S. (2012). *Get With the Program: Accelerating Community College Students' Entry into and Completion of Programs of Study*. New York, NY: Community College Research Center.

²³ As noted earlier, hundreds of community colleges are engaged in guided pathways redesign efforts, many sponsored by the American Association of Community Colleges, as well as state level associations. This work is based in part on the idea that students who have clarity on careers and programs of study early in college have increased chances for credential completion, which correlates with stronger labor market outcomes. For a full discussion of the reasons for guided pathways redesign, see Bailey, T., Jaggars, S., & Jenkins, D. (2015).

²⁴ According to research by the Center for American Progress, women and people of color are overrepresented in the lowest-wage apprenticeship programs. Black workers hold 8 percent of the highest-wage apprenticeships in occupations (e.g., electrician, plumber), but are more represented lower wage jobs (e.g., correctional officers).

industry-aligned learning through several mobile training labs outfitted to teach students about high-demand fields such as information technology and precision machining.

High school career advisors. Some community colleges have placed career advisors in local high schools to raise awareness about high-wage, high-demand career pathways and to educate high school teachers and advisors about the academic and technical skill requirements in these fields.

Career academies. Many colleges have partnered with K-12 to develop high school programs dedicated to specific career areas, ranging from hospitality to welding, then enroll students in continuing workforce programs after they graduate high school. Some take this a step further, and partner to deliver associate's degrees. One example is the partnership between Monroe Community College and the Rochester branch of P-Tech, a national 9-14 educational model designed to prepare students for careers in information technology.

Effective colleges understand that meaningful K-12 outreach requires thoughtful, consistent engagement. John Richman, president of North Dakota State College of Science, visits all 42 high schools in the Southeast Region of North Dakota. The college also conducts a residential summer program for high school counselors and educators, which serves the dual purpose of helping counselors see community college programs as “real” college options and building understanding of the programs offered and how the technical jobs of today are different from those of the past.

“A lot of our high school teachers and advisors may not know much about career and technical education,” said Jane Vangsness Frisch, vice president for student affairs at NDSCS. “Some of them hold biases against certain fields or community college in general. So we invite them here. They take part in the same hands-on learning that we provide for our students, they see the state-of-the-art equipment, they hear about the opportunities in this region, and they realize these programs are quite rigorous. They walk away with a completely different perspective.

We hear them talking about the experience years later—how eye-opening it was, how fun.”

Outreach should include very clear information about what program enrollment requires (including admissions standards and application deadlines) and what it will take to graduate (including timelines and tuition and fees). Prospective students should be exposed to both faculty and current students, both of whom can explain the program in depth and answer their questions.

Early, meaningful program guidance and opportunities for exploration

Once students are on campus, the first step toward effectively moving them through a path is to ensure that they are choosing the right program for them. Within their first few weeks on campus, students at exemplary colleges are guided through mandatory career exploration to ensure that they choose programs early, on the basis of sufficient information. Students are asked to articulate their goals in multiple areas, including earnings, interests, and overall sense of what they want to accomplish in life. They explore the credentials and years of education they need for careers they aspire to. The student with an interest in psychology, for example, is able to discover early on that a master's degree or higher will be required to work in the field, whether as a social worker or psychiatrist. This helps to narrow the array of career pathways and helps to set expectations about the programs themselves and the jobs that they lead to.

Clear pathways forward

As research has shown, clearly mapped pathways help students understand which courses and out-of-classroom experiences they need each term to avoid wasting time and credits. Community colleges have come to understand the value of providing and helping students choose among clear pathways of study with structured course sequences (rather than a wide-ranging and confusing menu of options) and then structuring advising to make sure that students stay on their paths.²⁵ At one end of

²⁵ Jenkins, D. & Cho, S. (2012).

this spectrum are cohort-based programs in which students, all together, take fixed-schedule course blocks each day, with the same small number of instructors throughout the program. At the other end of the spectrum are pathways-aligned progressions that prescribe specific course requirements and the order in which those courses should be taken. No matter the structure, the core tenets of guided pathways design are clearly aligned to and important for colleges' efforts to ensure strong labor market outcomes for graduates. For example:

Meta-majors, or the clustering of programs within broad occupational or disciplinary categories, help students explore interests and careers with a lower risk of wasting time or credits. First-term maps organized by meta-major can give students a taste of their potential career path but still leave room for them to change programs in their first year without significant repercussions. Often, students who find a certain sector appealing may not know enough

about the field to make an informed choice about which program is the best fit for them. For example, while health care offers a wide range of opportunities, prospective students are often most familiar with nursing, and may fail to consider other strong options.

Clear course-sequencing ensures that students earn credits and credentials efficiently. Many programs offer students the opportunity to earn certificates along their pathway to a terminal degree. But are students aware of the optimal course sequences that will allow them to reach each certificate most efficiently? Within strong programs, students are given clear guidance as to which courses to take and the order in which to take them. They're told which credentials they will attain along the pathway and what the labor market value is for each one. (And, if there is no discernible labor market value for a stack of credentials, strong colleges rethink program design.)

CAREER EXPLORATION AS AN ACADEMIC AND PRACTICAL PURSUIT

Guttman Community College, part of the City University of New York system, requires every first-year student to take a course called “Ethnographies of Work.” Through academic readings and field research, students are led through an introspective process designed to help them grapple with questions about work, life goals, and sense of purpose. The course uses academic readings to pose relevant sociological and anthropological questions: What is the meaning of work in human lives? What does it mean to adapt to different workplace cultures?

Through employer partnerships, Guttman brokers structured opportunities for students to conduct field research by visiting different workplaces throughout New York City. There, students observe differences in workplace cultures, norms, and expectations, the kinds of considerations that can often influence whether new employees succeed in the workplace and are happy in their careers.

The course also includes practical career skill-building through weekly group advising sessions that include coaching on networking, interviewing, resume-writing, and creating a personal elevator pitch. As a whole, *Ethnographies of Work* offers students the career and critical thinking skills—and agency—they need to decide on a path and navigate the world of work. ■

Impactful guidance and advising at key checkpoints does more than just connect students to resources and enable them to register for courses. It creates a through-line that connects students' past experience, current academic pathway, and career goals. Strong programs often include touchpoints with industry- or program-specific advisors, who can help students understand the nuances of their field requirements early on. For example, while financial planning and aid is important for all students, those in technical programs may need to be aware of the additional cost of licensure exams or tools specific to their career paths. And while program requirements should be part of any advising conversation, students in certain

programs, such as cybersecurity, need to be prepared for additional industry-credentialing requirements.

Effective advising also takes into account the differing needs of certain segments of the population. For example, Minnesota State Colleges and Universities have a specific orientation for veterans, who have often already earned applicable credits through military experience and may have a clearer idea of what they want. Colleges may make sure that students with young children are aware of on-campus supports, or they may provide tailored orientations for underrepresented student populations within certain programs.

The approach that **Broward College**, in Fort Lauderdale, Florida, takes to its nursing program path exemplifies how an extended onboarding process and ongoing support—even before students officially enroll in nursing—can improve student outcomes and equity in those outcomes. The program team starts with broad outreach, enabling students to learn about a wide range of health-care careers and to experience hands-on training within their first term. It also provides both program-specific and general advising and support.²⁶

Recruitment: Program staff reach out to K-12 districts and organizations such as the Urban League and CareerSource Florida to make a diverse population aware of the program. Prospective students hear from admissions staff, faculty, and current students; they learn not just what credentials and careers are available but also the admission requirements, how to apply, and how courses map to completion and in what time frame.

Onboarding: Interested students are placed in a general health science pathway, rather than the nursing specialty specifically, in case another track suits them better or they do not meet the nursing requirements. Student success coaches work with nursing hopefuls to create education plans and connect them to community events and information sessions. Those who do enter the nursing program receive a tailored, mandatory orientation.

First term: Students explore a range of health occupations and learn study skills in a life skills course. They build skills from the outset as they start work toward a stackable scientific workplace technical certificate.

Continuous support: Nursing students are assigned an advisor from the health care division, who ensures they use the resources available to them, including tutoring, and meets with them at regular checkpoints until they complete. Students who fail a course are enrolled in a one-credit review course with one-on-one support.

The result of this intentional effort: The completion rate for Broward's nursing program increased 15 percent in one year, and term-to-term retention is 97 percent. The cohort is highly diverse. Students of color make up more than three-quarters of nursing students, and nearly two-thirds are low-income.

²⁶ For additional guidance on how colleges can connect students to purpose early in their college careers, see Complete College America. (2019). *College, On Purpose*. Indianapolis, IN.

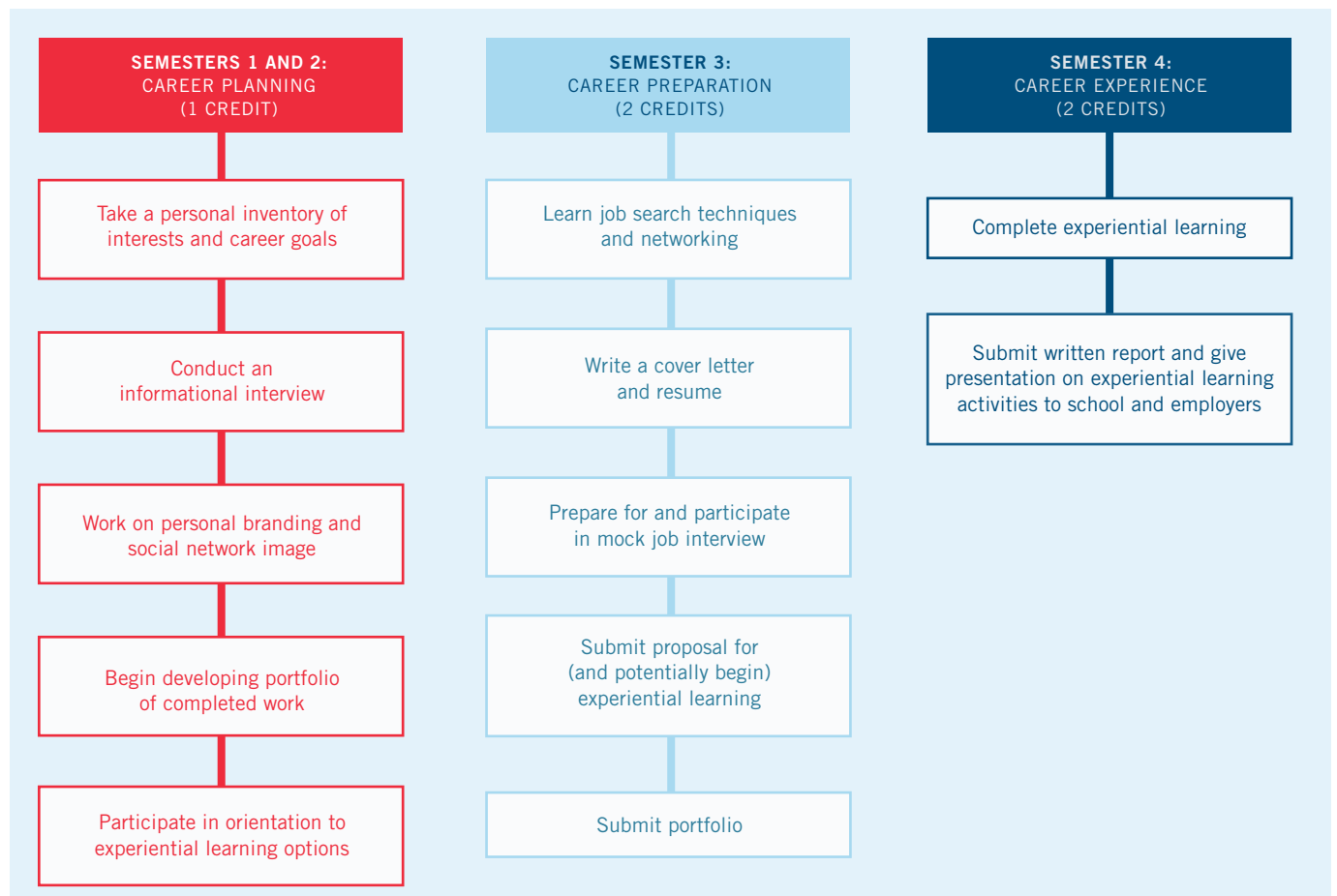
Teach career and life skills throughout the student experience

If graduates are to get good jobs and excel at them, there's a lot they need to learn in addition to building technical skills and gaining knowledge. Colleges must support students by preparing them with career skills. That includes not just the know-how for getting a first job, but also the ability to get the second, third, or fourth jobs, whether through promotion or in response to the changing world of work. Excellent colleges also recognize that if their ultimate goal for students is economic mobility, they must think about how to provide students with the foundational skills they will need to realistically attain this goal after graduation.

At NWTC, the business and information technology division created a learning map detailing not just the courses students must take, but key career planning, career preparation, and career experience milestones that students should achieve by specific points during the two-year program.

Exposure to advisors and mentors who are well-connected to industry is also critical. Top programs often accomplish this by assigning students to program-specific faculty advisors who provide industry- and career-specific guidance throughout the student's college experience. At Miami Dade College's MAGIC (Miami Animation and Gaming International Complex) program, animation and gaming industry representatives advise students throughout their program term—but the

TABLE 4: BUSINESS DIVISION CAREER MAP AT NWTC



relationship doesn't end there. The professionals serve as guest lecturers and project mentors, flying in from around the country to hear students pitch their ideas and providing them with immediate feedback. "By the time they graduate, the students are already networked with multiple employers who are looking to hire," said program head Mauricio Ferrazza. The students have "gotten used to interacting with them, getting critical feedback from them ... They've done a professional-level pitch in front of them. We could teach them how to interview, but it's the experience with the actual employer that really prepares them for real careers."

Engaging with organizations that have expertise in career preparation can also improve opportunities for students, in ways that reduce the burden on colleges. Year Up and Per Scholas, nonprofit organizations that train unemployed or low-income individuals for technology careers, offer strong models. Per Scholas has a support team—comprised of an admissions counselor, technical instructor, career coach, and employer-facing contact—that matches local employers with prospective candidates. Students receive training in skills that foster long-term financial stability. "It's not enough to get them the job," said Per Scholas President and CEO Plinio Ayala. "When these students leave us, they'll be making potentially more money than anyone else in their family. How do you handle that? How do you balance your own economic stability with demands to support a wider net of people? There's no single answer, but it's important to prepare students for those questions." Similarly, Year Up teaches students professional skills, such as interacting with managers and resolving conflict, alongside technical skills in information technology delivered in part through community colleges. It then places them in internships in which their new skills are put into practice. Year Up intensively coaches students, fostering in them an understanding of what it means to act professionally, and helping them align their underlying mindsets to expectations in the world of work.

Engaging community organizations in these ways can strengthen results at colleges that are often inclined to take on everything themselves, said the Aspen Institute's Robert Templin, who worked with Year Up while at

Northern Virginia Community College. "While we may do certain things as community colleges, we have to ask, are we doing them all well? Or could this partner do it better? What is actually in the best interests of our students?" For example, a college may be able to provide excellent advising on course maps and program exploration but may lack extensive expertise in delivering financial literacy training. NOVA's partnership with Year Up has led to excellent results. "Working together through a combination of classroom and hands-on technical and professional skills-development, corporate internships, and wraparound support, the Year Up-community college partnership creates transformational outcomes for students," Templin said. "Year Up's wraparound services, which are provided within a learning community with peer support and very clear expectations around professional behavior, attitudes, and dress, contribute significantly to a student's transformation in ways most community colleges could never achieve alone."

Help students get good jobs

Programs with the strongest student outcomes are intentional about helping graduates obtain jobs and ensuring they transition smoothly into the workforce. That starts with engaging with industry hiring managers. Both employers and students benefit when college staff—often program heads or career advisors—play a role in directly connecting talent pipelines to opportunities. "It is absolutely phenomenal when you have a college advisor or faculty member who has a relationship with not just the employer, but specifically the hiring manager," said Steve Jordon, vice president at the Northern Virginia Technology Collaborative Foundation. "They call them up and say, 'Here's the current talent pipeline, let me connect them to you.' It goes a long way with employers, and also helps students."

At exemplary colleges, this connection exists not just in isolated programs, but as a broader college-wide strategy. At Clark State Community College, students are guaranteed an opportunity to interview for a job prior to

graduating. More than 50 local companies, sourced from Clark State's advisory committees, participate. Students get help developing a resume and preparing for interviews. At Northeast Wisconsin Technical College, leaders create opportunities for networking through Internship Draft Day. Over 60 companies seeking students for internships, apprenticeships, and jobs come together at Lambeau Field, home of the Green Bay Packers, and students network and take part in up to six interviews.

Students may need help assessing trade-offs between different job opportunities. Students in NWTC's electrical power distribution program are required to complete a career research project, in which they compare the types of employers that hire from the program (for example, private sector versus state government), interview employers to learn about organizational culture, and research differences in benefit packages. "Some [jobs] provide funding for further education but pay less, for example," said instructor Pete Mleziva. "They might have different expectations and predictability around hours. These are all important things for our students to consider before just jumping to whoever is going to offer them a dollar an hour more."

Excellent colleges and programs can take yet another step, not just helping students land a job but ensuring a smooth transition. The first few months on a new job are often the most difficult. Yet, according to Gallup, only 12 percent of employees believe that their employers do a good job with onboarding.²⁷ Additionally, as a more diverse cross-section of workers enter an industry, employers must work to successfully integrate incoming talent with their existing workforce in order to prevent high turnover rates that cost employers and hurt workers. By accessing information from students and alumni, college leaders can provide valuable insights to employers about their future hires: what students are looking for in a job, how they perceive a given workplace, and whether any employer practices may be hindering the success of new hires. This sets up the graduate-employer relationship for success, benefiting the student, the employer, and, ultimately, the reputation of the college and its programs.

When a frustrated employer approached Monroe Community College with a problem, Vice President Todd Oldham understood. The company had invested heavily in a program at the college, but graduates were taking jobs with competitors. By speaking to alumni who had been recently employed at the company, Monroe staff learned information valuable to the employer. "A common misconception was that the new hire was being brought in to 'replace' an existing employee," Oldham said. "So the front-line employees weren't treating our students well." With this knowledge, the employer emphasized to employees that being chosen to mentor a student was a testament to that employee's competence and value, not a threat to their livelihood.

Through these and similar interactions, Monroe has built a reputation among employers not just as a workforce trainer but also as a problem-solver. When area employers sought to improve the capacity of their managers, they looked to Monroe to develop a noncredit leadership certificate program. The program grew out of a sensibility shared among college and industry leaders that leadership development is key to employee growth and engagement. What started as a small customized training program has grown quickly. About 450 people have earned this certificate, which is focused on everything mentoring and interpersonal communication to leading new employees. These practices help employers avoid the high cost of turnover while enabling graduates to enter the labor market smoothly and move up the economic ladder. ■

²⁷ O'Boule, E. & Carter, J. (2019). *Why the Onboarding Experience Is Key for Retention*.

Domain 4

DEVELOP
RESPONSIVE,
MUTUALLY
BENEFICIAL
PARTNERSHIPS
WITH EMPLOYERS
CENTERED
ON HONEST
FEEDBACK
AND RECIPROCAL
SUPPORT

Community colleges with strong workforce outcomes consistently adapt to deliver what employers need. Through strong, trusting relationships, college leaders, faculty, and staff come to deeply understand employers' and students' needs. They establish intentional strategies and processes to meet those needs and pivot rapidly when technology and student characteristics evolve.

Developing and maintaining industry relationships requires sustained, thoughtful work. At both the college-wide and program levels, effective strategic engagement goes well beyond twice-annual advisory board meetings and other routines common at community colleges.

Fostering, sustaining, and growing employer partnerships requires that colleges:



While other stakeholders are also central to effective delivery, institutional leaders play a critical role in setting up the most productive, sustained college-employer partnerships. This isn't to say strong community college programs can't be built from the ground up; many have thrived through trusting long-term relationships between college program leaders and faculty and industry line managers. But when the college president and industry leader or CEO have a positive, foundational relationship, it trickles down through both hierarchies, increasing the chances of a meaningful, durable, prioritized partnership.

Select and engage employers based on honest, data-informed conversations

There are many ways college and industry representatives enter into, and maintain, relationships with each other. A workforce development council may enlist a college president to help convince a new employer to relocate to the area. A program head may stay in touch with her former employer or with former coworkers who are now running businesses of their own. An employer facing hiring challenges may call upon the college to start a program.

However, colleges with the best labor market outcomes typically build relationships with employers systematically and proactively, rather than simply reacting to opportunities as they arise. They position themselves as partners in problem-solving rather than merely as trainers and educators. As well, they apply as much analysis to understanding employers—and selecting which to work with—as they do to understanding the labor market as a whole.

These key questions are useful in prioritizing potential employer partners:

Which employers offer good jobs? (What qualifies as a good job may vary from region to region, but college leaders should consider earnings, benefits, and employers' reputations for maintaining generally positive and equitable work environments.)

Which are growing substantially and/or experiencing rapid turnover? Which are reporting talent shortages?

Are there growing numbers of small businesses within the same industry group that are influencing the economic landscape?

Are there companies new to the region that have not yet been introduced to the college? Among the largest and fastest-growing employers with good jobs, which are led by leaders with the most influence in the region or their industry sector?

To what extent is the employer willing to collaborate with the college to ensure that programs are high-quality? (Are employees and leaders willing to engage in program review processes and advisory board meetings? Serve as adjunct faculty? Host students for work-based learning opportunities?)

College leaders have taken varying approaches to establishing these relationships.²⁸ Whatever the initial approach, they should first ask employers what they need (even if they suspect they know the answers). This way, they learn how employers perceive their current challenges in talent development, as well as what the future might hold. College leaders should seek different kinds of individuals within companies to understand important perspectives.

Among the questions to ask of potential partners:

What are your goals? What kind of talent do you need to reach those goals? It's important to pose this question to multiple stakeholders. A CEO might aim to increase orders or cut costs, while a human resources representative might be focused on hiring more workers with certain skills or credentials.

²⁸ See page 10 of this guide for a brief discussion of how Northeast Wisconsin Technical College President Jeffrey Rafn and LATI President Mike Cartney (and their cabinets) have engaged to consistently understand the interests and challenges faced by industry leaders.

What are your biggest barriers to reaching those goals? Push beyond a broad declaration of a talent deficit to get to what the employer believes are the root causes. Is the problem getting a sufficient quantity of applicants, getting new hires up to speed, or retaining employees? Quantify the issue where possible (for instance, the specific costs of recruitment or number of open positions).

What strategies are you currently using to solve these issues, and are they working? Is the employer sourcing talent locally or trying to import it? If the latter, could this be contributing to turnover? How do its wages compare to those of competitors? Has the college considered degrees, certificates, and other upskilling opportunities? Which strategies are working, which are cost-effective, and how do you know?

When President Rafn at Northeast Wisconsin Technical College meets with employers for the first time, he never asks for anything for the college, or pitches anything. Instead, he asks questions about the future of the business, the impact of automation, the workforce needs, and so on. At the end of the conversation, he asks the most important question of all: What can NWTC can do to help?

Colleges must offer a compelling value proposition for employers to want to engage, both at the outset of a relationship and as it evolves over time. The proposition takes different forms, but usually it boils down to this: Our partnership can deliver the talent you need in an efficient and effective way. This isn't community service, but rather a mutually beneficial proposition.

TABLE 5: LISTENING TOUR GUIDE

	COMPANY EXECUTIVES	FRONTLINE/HIRING MANAGERS	HUMAN RESOURCES	RECENT PROGRAM ALUMNI
Key insights to seek in listening tour	• Organization's goals, future plans, and strategic challenges • Broader industry marketplace trends • Willingness and capacity to invest deeply in a partnership	• Skill gaps (both technical and professional skills) • Time it takes new hires to operate at 100% competency • Attributes of top-performing new employees	• Open positions • Average time to fill open positions • Turnover rates • Hiring practices and requirements • Recruitment timelines and costs	• Workplace culture • Barriers to upskilling • Gaps between classroom training and real-world application
What to consider as a problem-solving partner	• To what extent do employer and college goals align? • Is the employer willing to make the investments needed to solve talent pipeline challenges?	• Can the college help to close skill gaps through better quality programming? • Can better training reduce time-to-competency for new hires?	• Can the college provide the quantity of talent needed for open positions? • What other educational providers are also responding? • Could the employer save money and time spent on recruitment by partnering with the college?	• What kind of feedback to employers might be helpful (e.g., onboarding practices, management of new workers)? • How can programs better align training to real-world requirements?

An effective case for partnership clearly articulates how employers' existing strategies may be draining resources, and how a partnership could result in improvements in short- and long-term return on investment. *Table 5* shows how insights from a "listening tour" may inform how colleges approach employers as problem-solving partners: The deep involvement of employers such as Univision and Nickelodeon in the MAGIC program at Miami Dade College—which includes not just mentoring but funding, equipment donations, and curriculum and production consultation—is the result of strategic pitching. "They're not here only out of the goodness of their hearts," program head Mauricio Ferrazza said. "They're here because it makes good sense to work with us." MAGIC graduates take only about one month to efficiently contribute to a product in the workplace, rather than the typical six to nine months for typical animation and gaming hires.

It is this kind of relationship—in which the employer is convinced the college is a critical supplier of needed talent—that leads to sustained partnerships for the college. Among the results of such partnerships:

Human resources: When a new or growing program needs additional instructors or training on new equipment, employers can be part of the solution by, for example, arranging for faculty to visit worksites to stay on top of industry trends, agreeing to job-sharing agreements so faculty can work part-time, and supplementing salaries for faculty and program leaders.

Modern equipment and facilities: Employers can help fund the materials, equipment, and space required for high-quality learning environments that simulate work experiences. For example, Mitchell Technical Institute in South Dakota has low-cost, annual lease agreements with an equipment supplier that employs graduates of its precision agricultural program, ensuring that technology can be upgraded regularly at a cost the college can afford.

Student resources: Employers can help students by providing scholarships or sponsorships. North Dakota State College of Science matches employers with entering students who are interested in their industry; the businesses help fund students' textbooks and tools, and in some cases even a full ride through the program. This not only alleviates financial stress for students but also serves as an employer recruiting mechanism. As many as one-third of NDSCS students are supported by local employers.

Advocacy: External support from employers and economic development groups can help colleges meet their goals. For example, CEOs can accompany presidents to advocate that policymakers provide funding for their colleges or modify rules that increase costs or reduce flexibility. Employers can also represent the college at area recruiting events, or advocate for a bond issue needed to build and improve facilities.

WHEN TO SAY NO

Colleges should not be afraid to say no to a request for special programming or partnership by a business. Sometimes goals just do not align. For example, equipment needed for a course may be unaffordable. Employment opportunities linked to a proposed course or program might not pay living wages. Or there may be insufficient employment demand to justify developing new programming.

College leaders can be intimidated by business leaders, especially in a region with a small number of large employers that they don't want to upset, or feel political pressure to collaborate with business without asking too many questions. So it's important to develop some clear parameters to guide when it is okay to walk away from opportunities that do not serve the college or, most importantly, students. ■

Create easy on-ramps to partnership

Employers affiliated with colleges highly effective at workforce education say that the strength of their relationship is due in large part to the colleges' customer-service orientation. Top-performing colleges make it easy for employers to partner with them. In the start-up phase, they help employers understand that there are many ways to engage with the college to solve business issues. They then provide clear steps for developing an initiative and, over the course of the partnership, reduce exposure to time-consuming (and often frustrating) bureaucratic processes.

A menu of options to solve business problems

At Lake Area Technical Institute, partnership promotion is a major marketing endeavor. Professional brochures articulate a range of challenges that employers in the

region might face, as well as partnership opportunities to pursue. Each option is explained succinctly and plainly, and each is framed as a way for employers to help themselves rather than as a way to support the college.

When South Dakota created the Build Dakota scholarship fund for technical schools, LATI encouraged regional employers to provide matching scholarship donations for its students. LATI branded the initiative "Stretch the Million," a campaign that appealed to employers' desire to get skilled workers. Employers could donate funding for scholarships in a particular field, or even allocate dollars to a specific student. Students who received scholarships were then committed to working in that particular industry for three years or, if they were sponsored by a specific employer, for that employer after graduation. Employers with existing relationships with LATI encouraged other employers to join. Whether potential partners were large national corporations or small local businesses, LATI made it easy for them to join in. More than 100 businesses have ended up participating.

FIGURE 7: LANGUAGE USED TO ENGAGE EMPLOYERS AT LATI

- Effectively establishes the challenge the employers face
- Includes clear, concise points written in plain language

Photos showcase "A Day in the Life" program, where employers and community members tour the college, participate in classes, and meet students.

THE SITUATION

South Dakota faces a critical shortage of many skilled occupations in the healthcare, technical, construction, transportation, computer technology, agriculture, and manufacturing sectors.

The threat exists due to these facts:

- Lack of hands-on career-oriented courses at the high school level that expose students to these occupations.
- The growth of industry and business in South Dakota.
- The exit of the Baby Boomers from the full-time workforce.
- The erroneous negative perception of certain careers.
- The increasing technical sophistication of many job sectors.

Lake Area Tech offers the technical programs which produce the skilled graduates the workforce needs. Lake Area Tech, future employers, and state government MUST partner together to motivate individuals to gain these skills.

THE SOLUTION

What employers can do to be proactive in creating/finding skilled employees:

- Develop relationships with Lake Area Tech students:**
 - Speak to classes about your business practices.
 - Participate in Lake Area Tech job/career fairs.
 - Hire Lake Area Tech students for part-time/summer employment or an internship.
 - Scholarship a student in exchange for employment after graduation.
 - BRAND your company through equipment donations.
 - Actively serve on Lake Area Tech Advisory Boards.
 - Consider joining the Business Partner Program or Build Dakota Scholarship Stretch the Million through Lake Area Tech Foundation.
 - Partner with Lake Area Tech on grant requests and implementation.
- Work closely with Lake Area Tech Corporate Education to develop customized training to up-skill your current employees.**
- Analyze how best to present your business image and the skill sets your business needs.**
- Offer incentives for current employees to locate individuals who are willing to pursue selected degrees.**
- Offer workshops/open houses for K-12 teachers so they can see the work environment and hear about the important opportunities for young people.**
- Consider assisting in Dual Credit opportunities to expose students to Career and Technical Education.**





TOGETHER, LAKE AREA TECH AND YOUR BUSINESS CAN GROW THE SKILLED WORKFORCE SOUTH DAKOTA NEEDS!

Connect the right people

Employers say that the colleges they enjoy working with most are purposeful about making sure that they connect with the right college contacts early on and are guided through clear steps in a timely fashion. Industry actors may not know the difference between the responsibilities of a vice president for workforce and a dean of allied health, or the implications of whether a program confers credit or not.

When leaders at Concord Management, a property management company in Orlando, wanted to explore developing a new academic program, they had never worked with a college before. “Everything was new to us, but Valencia College made it easy,” said Jonathan Thomas, Concord’s asset management director. After an initial conversation, President Shugart quickly connected Thomas, the assistant vice president for career and workforce education, and from there, “they took us step by step,” Thomas said. “They taught us about the DACUM process, they told us who from our team to bring to follow-up meetings ... they helped us navigate all these college processes that we were initially really nervous about.”

Valencia also helped Concord’s leaders understand that developing a program that engaged and met the needs of multiple employers across the property management sector had significant value. By having more industry partners share in the cost of program development and increasing the program’s size, the college would have greater capacity to recruit talented students and be more likely to meet Concord’s needs. The result: a strong property management program that has mitigated the employee shortages that Concord and other area businesses were facing.

FIGURE 8:
LANGUAGE USED TO ENGAGE
EMPLOYERS AT LATI

STRETCH THE MILLION is a win-win for new students* at Lake Area Technical Institute and for participating industries.

Benefits to your industry:

- ★ **Your company** has the option to add specific scholarship requirements and criteria to your portion of the scholarship including targeting your scholarship dollars.
- ★ **Your company** will have a known return on investment
- ★ Student’s college performance can be used in your hiring assessment
- ★ And so much more

For example, if your company needs a plant operator, you scholarship a student for 50% of the cost of their education, and require the awardee to work at your company for three years after graduation.

* A new student is one who is starting a program of study at Lake Area Tech and never received a Build Dakota Scholarship.

Limit bureaucracy

This guidance is even more crucial for more complex partnership arrangements, such as those with multiple employers or those aimed at developing registered apprenticeships. Harper College, in the suburbs of Chicago, has become a national model for its white-collar apprenticeship programs. Employers need only express an interest in hiring an apprentice, and the college helps guide much of the rest of the work. Because Harper is the registered apprenticeship program sponsor, the programs are already approved by the Department of Labor’s Office of Apprenticeship, and companies have one fewer hurdle to clear.

Interested employers are told they can start small, with only one or two apprentices, and grow over time. This customer-service orientation has enabled Harper to expand its apprenticeship programs over four years from two programs to ten programs with 154 student apprentices.

Establish business-friendly systems to manage partners

While it may be easy for college leaders in a small town to stay connected to the town's few large companies, they may struggle to serve employers that are geographically farther away. For college leaders in large complex economies, it can be difficult to keep track of hundreds or thousands of employers. Colleges lauded for their customer-service orientation tend to have dedicated personnel to manage strategic development of industry relationships and a system to keep track of contacts and follow-up tasks. Organized relationship-tracking and management, with assigned points of contact at the college, prevents employers from receiving duplicative, disjointed communications (or none at all).

Lake Area Technical Institute created several positions for region-specific business partner specialists, who recruit partners and serve as the central point of contact with employers scattered across a large, rural service area. They identify workforce development challenges and, because they are assigned geographically and not programmatically, are able to think creatively about cross-college solutions.

Monroe Community College invested in an online customer relationship management (CRM) system to track its hundreds of employer contacts and the progress of its ever-expanding roster of partnership initiatives. A team of business relationship specialists keeps track of requests, interests, and communication to and from multiple individuals at multiple employers, and a LinkedIn showcase page for the corporate college is used to communicate updates and receive requests from employer partners. "It was vitally important to also make sure the design of all of our outbound communication was cohesive and clear," said Kristin Sine-Kinz, director of marketing operations and client communications at Monroe. "Employers are used to polished, efficient communication, and they associate that with the brand of your college."

At NDSCS, a smaller institution, staff use a central Excel document to track communication to employers about

advisory board meetings, new offerings, and other relevant college news, and note which employers are interested in sponsoring a student (via financial support and internships). Documenting relationships in this way helps a partnership endure even when the faculty member or program head who built it leaves.

It's also important for colleges to engage employers in the way they've come to expect in the business world: with prompt, clear, and high-quality communication. Employers value responsiveness from college partners. "With Valencia, it doesn't matter who I talk to, it feels like I'm talking to the decision-maker," said one Orlando business leader. "They may not have the answer right away—I know there's probably a lot of bureaucracy behind closed doors—but I don't ever see it. It's never, 'I can't help you, talk to X.' I don't get sent on a phone trail. They take ownership to figure things out on their end and get back to me. I don't have to send five emails to get an answer."

Savvy colleges tailor outreach and updates based on what is most important to a given partner rather than sending one-size-fits-all communications. They let partners know what information to expect, in what timeframe, and they follow through on those promises. They ensure employers are not juggling requests from multiple points of contact at the college. Materials avoid higher-ed jargon, keep text simple and concise, and ensure that visuals impart valuable information (rather than serve as distractions).

Convene industries and other critical partners for scaled, regional impact

Given their unique role and vantage point, community colleges have the potential to serve as catalysts for regional progress in ways that go well beyond one-on-one relationships with individual employers. Highly effective colleges also build relationships with clusters of employers and other relevant constituents, not just through well-constructed advisory board meetings, but by bringing together multiple actors needed to fill jobs for an entire industry sector in a region. The key is to ensure that these opportunities are designed as problem-solving discussions

with clear next steps, rather than merely as efforts to showcase and recruit employers to support existing college programs.

The college as convener

A regional approach is especially effective when multiple large employers in a single sector, such as information technology or health care, face significant workforce gaps. Importing talent from other states and regions may temporarily narrow the gaps, but it rarely closes them permanently, as employers in other regions are working just as hard to recruit those same workers. Overlapping recruiting strategies may result in employees swirling among businesses, driving up the cost of labor without closing skills gaps.

When such challenges are present, community colleges can play an important role in organizing a solution. While sector-wide initiatives require employer leadership, community colleges can and should play a role in shaping and convening stakeholders around solutions. They can use a number of key strategies to do so:

Focus on case-making. Through data analysis and conversations with employers, colleges can proactively identify regional economic development challenges that call for collective action. With the contours of the challenge in mind, they should approach potential industry collaborators individually to learn about their specific needs and concerns before sharing any ideas. It may help to hire an “enabler”—another organization or individual who has sway with the partners the college aims to engage (for example, a respected member of the health care community who can rally hospital CEOs). In some cases, an industry group can be a powerful partner. San Jacinto College, for example, collaborates closely with the East Harris County Manufacturers Association, which collects and shares data on overall industry trends and needs.

Identify a mission that meets everyone’s needs.

Early convenings of corporate and college leaders should focus on developing consensus around a shared understanding of the scale and scope of key challenges, with

an emphasis on portraying, through data, why strategies pursued by individual employers have not solved these challenges at scale. Building on this foundation, leaders can rally around a common mission and strategy that creates value for all partners, including education providers, employers, and students. The college (or selected facilitator) should act as a neutral convener, there to listen to and confirm common industry needs and discuss possible solutions without aggressively positioning the college as the only education provider that can offer a solution. If the talent challenge is greater than one community college can address, consider bringing in other community and four-year colleges.

Set goals, metrics, and responsibilities. For sectoral partnerships to maximize impact, it is important that partners set targets: specific talent gaps to be filled by a specific date. Then the parties can discuss and document the roles each party will play in delivering education in classrooms and workforce settings; securing and contributing funding needed for equipment, tuition and fees, and other costs; setting agendas, convening partners, and managing partnership activities; and collecting and reviewing data to assess progress toward common goals.

Develop systems for communication and support.

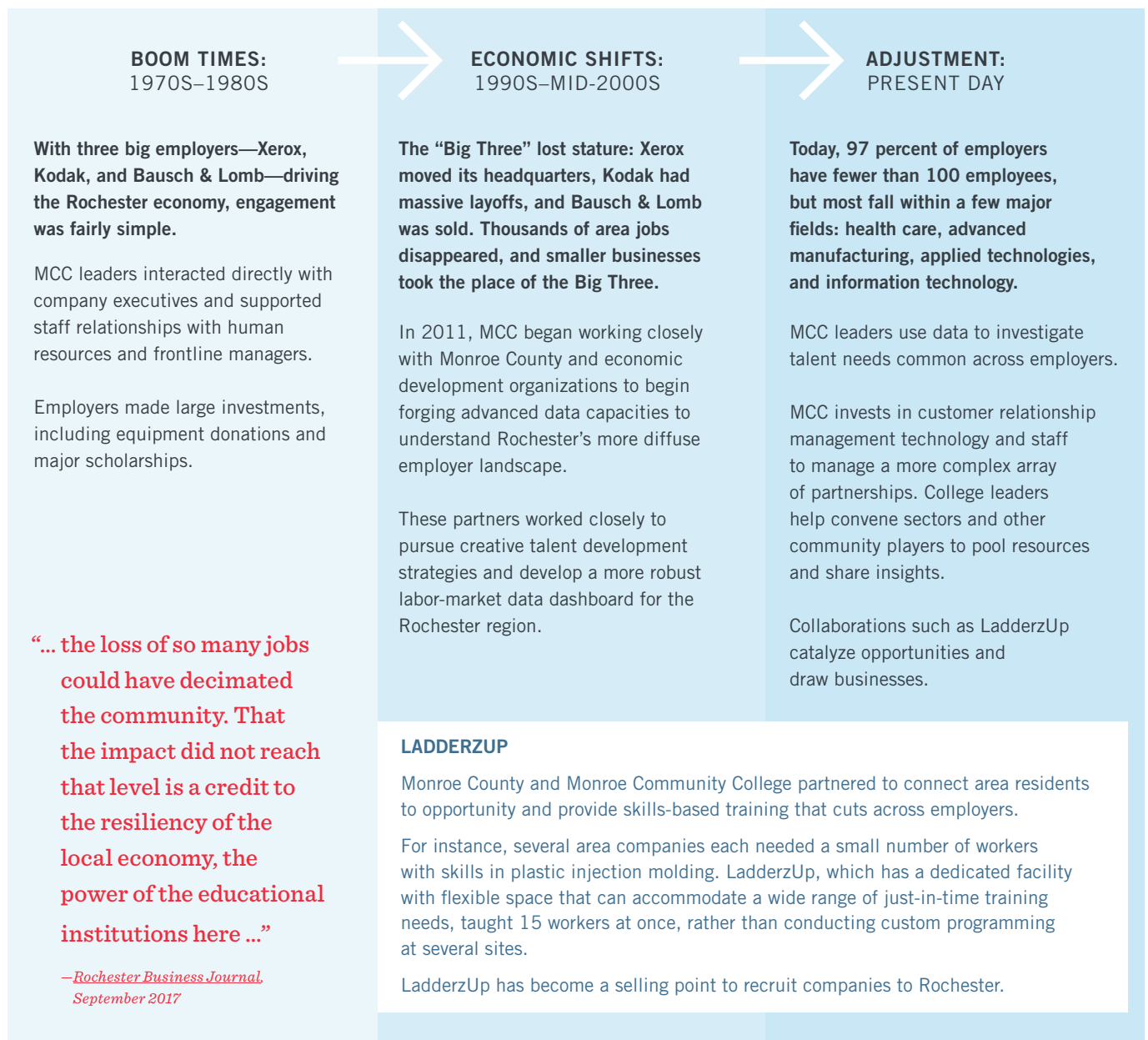
Create expectations and schedules for regular communications between CEOs, program leads, partnership managers, and frontline staff, including faculty and advisors at the college and managers and human resource professionals at companies.

For years, the Orlando region struggled to build a sufficient pipeline of nurses, and each year, area colleges produced about 1,000 fewer nurses than needed. Hospitals attempted to outbid one another for nurses, raising wages by a few dollars to attract employees and contributing to continuous churn. Colleges independently lobbied individual hospitals for resources, and tensions arose when colleges attempted to start programs that already existed on other campuses. Employers expressed concern about colleges underproducing graduates, while colleges expressed that employers were not providing enough resources, including clinical spots for training.

Valencia and other colleges came together to solve the nurse shortage with investment from the health-care industry. With an industry veteran serving as a neutral moderator, they held data-informed meetings that used churn rates, wage trends, and historic and projected skills-gap data to convince hospitals and colleges that a new approach was needed. College presidents and hospital

CEOs gathered at a summit, at which they discussed how to align curriculum and expand capacity. The case was made for hospitals to invest more money in the solution and for four-year colleges to support the addition of bachelor's degree programs in nursing at community colleges. Department heads and faculty continued to meet throughout the year, building consensus around goals

FIGURE 9: ADAPTING TO A SHIFTING LANDSCAPE: MONROE COMMUNITY COLLEGE



and sharing best practices (such as involving employers in recruitment and launching weekend and evening programming).

Underlying this work—and key for any such collective effort—was the need for employers to understand what it takes for colleges to build and expand programs, and for colleges to understand how to demonstrate business value to employers. The result: Since 2016, three new post-licensure bachelor's of nursing programs have been added in the Orlando region, allowing the number of nursing students to double to 6,600 within five years.

Sometimes, a college that for years worked with a series of individual employers may be called upon to shift to an industry-wide approach. Such was the case at Monroe Community College. Over a few decades, the Rochester economy had shifted from one dependent upon a small number of major corporations to one that is much more diffuse, with 97 percent of employers having fewer than 100 workers. In response, as *Figure 9* shows, MCC leaders moved from engaging directly with large-company CEOs to convening leaders across the region's most significant workforce clusters.

The college as a data catalyst

Collective relationships can be especially useful when colleges experience roadblocks to accessing data on graduates. In such cases, it helps to enlist allies that have an interest in collecting similar data, such as K-12 systems, economic development agencies, and leading employers. For example, NDSCS President Richman and his team garnered support from employers and partner colleges in a successful effort to get the state to grant the college access to unemployment insurance wage records to better track graduates into employment. NWTC President Rafn joined forces with the local school superintendent and the chancellor of the University of Wisconsin-Green Bay to petition for a data-sharing agreement that allows higher education institutions to track students from K-12 through community college and into the labor market or bachelor's programs. "We had all our lawyers at the table," President Rafn said. "It took a while, but we knew how

much we could do with that data, so we were committed to seeing it through."

Community colleges can also play the role of trusted data provider. Nationally, few community colleges have developed better workforce data capacity than Monroe Community College. Vice President Todd Oldham and his team built a robust data dashboard that is used to inform not only the college's own strategies, but also serves as a resource for other community stakeholders to analyze data and trends across specific geographic areas and workforce clusters. Now partners from K-12 leaders to employers can understand the speed at which graduates from particular programs achieve specific wage levels, and how their wages compare to those of peers.

Importantly, Oldham notes that Monroe's success with labor market data lies not in simply collecting inputs, but in starting first by defining the key questions they needed to answer in order to move forward on strategy.

"So often, leaders run straight to a data source, but unless you know what questions you are prioritizing and what answers you're looking for, it can become easy for your team to become lost in the information without gaining the key insights needed," he said. Leaders need a research agenda first—one that can guide strategy and prioritize data work so it doesn't become overwhelming. Then figure out what data—internal and external—is needed to answer the research questions, and develop a strategy to acquire those data.

For MCC, it was a multiyear process. "We started to move in this direction because available analyses were either national in scope or, if local, did not ask the questions of most value to a community college workforce development team," Oldham said. "Because we are now framing select workforce data for our specific mission in the community, we are much better informed. ■"

WEATHERING ECONOMIC DOWNTURNS

The research highlighted in this playbook was conducted during a period of economic expansion, when many employers were facing a shortage of qualified workers (and, as is common during a strong economy, community college enrollments were declining). Eventually, though, stagnation or recession is inevitable. And other economic disruptions can arise: a major employer leaves town, or technology makes an entire job category obsolete.

In times of economic downturn, community college enrollments typically increase, but the availability of jobs is less certain. Will employers continue to invest in a program when their need for workers has decreased (or gone away)? Hard-earned, robust partnerships threaten to disintegrate as employers' profit margins do.

College leaders can anticipate these challenges before they arise and proactively develop strategies to address them. Some recommendations from leaders who have weathered regional economic hardship:

Strike while the iron is hot. When the economy is booming, employers are hungry for workers and more willing to invest in talent pipeline solutions. Savvy college leaders push during these boom times. Is there more an employer could be doing to attract and retain talent, whether through higher wages, better workplace culture, or benefits? (Providing better wages and benefits now for workers can help graduates establish themselves so they are better positioned to weather economic downturns.) What long-term investments could employers make to build permanent capacity at the college, such as facilities upgrades and favorable long-term lease agreements for equipment?

Refocus on the future. When Columbus, Ohio, was hit by the recession, Honda, like other area employers, was not looking to hire new talent. Rather than focus mainly on immediate needs, Columbus State President Harrison held data-informed conversations with Honda that explored the threat of a talent pipeline shortage due to retirements and the likelihood of industry changes requiring different skills. The joint manufacturing program emerged from this mutual commitment to developing the next generation of workers. When the economy recovered, Honda had the ready pipeline of skilled talent needed to maximize business opportunities, and Columbus State was able to prepare students for good jobs.

Brace for setbacks. As employers struggle to cut costs, they may not see a value in remaining engaged with community colleges. "They'll stop picking up the phone, they'll stop attending meetings, and that can be incredibly frustrating," former NOVA president Templin said. Leaders need to prepare for the emotional blowback of an employer temporarily walking away and understand that this can happen even with the best partnerships. It's certainly possible to revive partnerships once the economy has stabilized. But this is also an opportunity to begin work with other partners, such as economic development organizations with resources to invest in the community and others that share a mutual interest in mitigating the impact of stagnation across the region. ■

Conclusion

For students to graduate ready for success in the next phase of their lives, community college leaders, faculty, and staff must raise their sights to guarantee that students are not just provided access and supported through completion, but that the credentials they complete are aligned to the expectations of what comes next. To maximize the chances of success for students aiming to continue their education, community colleges must align their program maps, teaching, and advising in partnership with universities and colleges.²⁹

For those going directly into the workforce, that means creating a vision, ensuring quality, supporting students, and partnering thoughtfully with employers.

Our research into the practices of highly successful colleges shows that strong and equitable workforce outcomes are possible at scale. The community colleges featured here offer valuable lessons for the field, in multiple settings: rural and urban communities, credit and noncredit classrooms, and a wide variety of business sectors. They are effectively serving multiple student groups: men and women, students of color and white students, veterans, recent high school graduates, single mothers, and more. We look forward to learning more about and from community colleges that are using this information to bolster their own practices, making good on the promise that community colleges can deliver exceptional talent and drive social mobility in their communities and across the nation. ■

²⁹ Deane, K., Fink, J., Gordon, M., Jenkins, D., Kadlec, A., & Wyner, J. (2017). *Tackling Transfer: A Guide to Convening Community Colleges and Universities to Improve Transfer Student Outcomes*. Washington, DC: The Aspen Institute, The Community College Research Center, Public Agenda, and SOVA.

HOW IS YOUR COLLEGE DOING?



This set of standards will help you assess where your college is engaging in strong practices and where it has room for improvement.

Advance a Vision

Elevate Labor Market Outcomes

1. Student success goals include clear and measurable targets for graduates' employment and earnings outcomes.
2. Collegewide reports to the president, cabinet, and board of trustees about student outcomes include data on graduates' employment and earning outcomes soon after graduation and over time.
3. The strategic plan and other documents that reference student success include significant goals and strategies aimed at improving graduates' employment and earnings outcomes.

Understand the Regional Labor Market and Population

4. The president and cabinet meet regularly to review data on changing demographics in the college's service area, with enough frequency—at least every other year—to enable changes in strategic direction to keep pace with changes in demography.
5. The president and cabinet meet regularly to analyze data on employment trends, including data on educational requirements and wages associated with different jobs in the region, with enough frequency—at least every other year—to enable changes in strategic direction to keep pace with changes in the labor market.
6. The president and cabinet meet annually to review the employment demand and wage outcomes for the college's graduates and for career and technical programs overall.

7. The college has set explicit goals for workforce development that include attracting, training, and graduating students from targeted populations, such as underemployed adults or racial and ethnic groups underrepresented in CTE programs.
8. The college has developed a specific definition of the baseline living wage for graduates in its service area, which it uses to assess the success of graduates and updates periodically.

Align Offerings to the Needs of the Region

9. The college has processes in place to consider where and how programs may need to be expanded or developed to meet changing labor market demands.
10. The college closes or redesigns programs due to low graduation rates or poor employment and earnings outcomes.
11. The president and cabinet have an annual process to review and refine the mix of programs offered—credit and noncredit, CTE and transfer-oriented—that enable students to access most of the good jobs in the region. This process considers:
 - Regional demographics
 - Trends in labor market opportunities, including careers with available good jobs now and in the future, and what credentials they require
 - Enrollment and completion by program, disaggregated by student group
 - Skills required for the changing job market
 - Employment and earnings outcomes for graduates at the college and program levels
12. The president and cabinet meet annually to consider equity in program enrollment and outcomes, considering which students—by race, ethnicity, income level, age, and gender—enroll and graduate in the programs that result in the strongest labor market outcomes versus those that result in earnings below a living wage.

Deliver High-Quality Programs

Program Approval

1. The program approval process considers whether a proposed credential is tailored to the specific technical and professional skills required for targeted jobs. Considerations include program length, whether the program should be credit-bearing or not, and whether it should end in certification, a technical associate's degree, or an associate's that leads to transfer toward a four-year degree.
2. The program approval process requires that program design and delivery strategies address the needs of diverse students, through these considerations:
 - Time of day courses are offered
 - Program length
 - Program costs, including fees, tools, and other costs
 - Opportunities for students to earn income while taking courses
 - Program and course locations and ease of transportation
3. Program proposals are only approved if they demonstrate the potential for strong labor market outcomes.
7. Programs define and assess the professional skills ("soft skills") graduates will need, and use assessments to ensure that programs are teaching these skills.
8. Programs include specific work-based learning requirements (such as internships, co-ops, clinicals, and apprenticeships) developed collaboratively with employers. The design considers whether employers have the capacity to provide supervision and mentorship and what resources and equipment the college needs to provide high-quality experiences.
9. Where appropriate, explicit pathways allow students to move between workforce and liberal arts programs, credit and noncredit workforce programs, and workforce programs and university-based bachelor's programs.

Hire and Empower Workforce Leaders

Skills, Credentials, and Work-Based Learning

4. Program heads and others engaged in program design are trained in and use DACUM curriculum design processes that engage employers and begin with identifying skills needed, before designing credentials to be awarded.
5. Internal processes promote information-sharing between workforce and liberal arts programs and between credit CTE and noncredit workforce programs.
6. The program design process considers not just the credential under consideration but also the trajectory of credentials required for continued momentum in the field, for instance by embedding industry-recognized certifications and articulating to bachelor's degrees.
10. The college sets goals and criteria for what makes an effective CTE faculty or staff member, such as technical knowledge and skill, a focus on student learning, and a customer service orientation.
11. Tools and processes, such as hiring rubrics, teaching demonstrations, and annual professional development design sessions, ensure that those goals are embedded into the college's approach to hiring, professional development, and evaluation.
12. The college embeds goals for diversity into its decision-making processes for hiring.
13. Professional development for all CTE faculty ensures that they have updated technical skills, including through training on up-to-date equipment, required site visits to employers, and/or opportunities to maintain part-time or intermittent employment in the field.
14. The college evaluates program quality and devises improvements in part through the results of student performance on third-party or industry certification examinations.

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Deliver High-Quality Programs (continued)

Maintain Program Quality

15. CTE program review includes reliable and actionable data on participation rates (disaggregated by race, ethnicity, gender, age, and income), graduation rates, and employment and earnings outcomes.
16. Advisory board meetings focus on problem-solving rather than updates and result in concrete next steps to improve programs' quality and equitable student participation and success.
17. Between advisory board meetings, program heads and faculty proactively solicit feedback from employers, particularly frontline managers—through faculty visits to employer sites, employer classroom observational visits, monthly check-ins, and more.
18. CTE program review includes active participation by all stakeholders with relevant perspectives, including faculty, program heads, students, advisors, graduates, and employers.

Support Students

Outreach

1. Work with K-12 systems includes strategies for helping students explore careers during high school and align advanced coursework, such as dual enrollment, with likely college program choice.
2. The college has scaled strategies to move students from noncredit programs associated with underpreparation, such as GED and English as a second language programs, into workforce and CTE programs.
3. With community-based and other workforce organizations, the college provides information to adults on available programs aligned to good jobs and creates clear processes to easily connect them to the appropriate contact at the college.
4. The college president, cabinet, and programs leads regularly collaborate with marketing and

communications teams to recruit and enroll diverse populations in programs with the strongest labor market outcomes.

Onboarding

5. The onboarding process provides students with opportunities to think critically about their own interests, financial goals, and desired job characteristics (such as location, hours, and working climate).
6. The onboarding process provides opportunities for students to actively explore program courses and career pathways through approaches like student testimonials, hands-on activities, and visits to work sites.
7. The onboarding process provides students with clear information about:
 - The degrees, credentials or certifications, background checks, and other requirements needed for employment and career progression
 - Program costs and time commitment
 - Likely labor market outcomes of the program, including employment rates and entry-level and average wages
8. Advisors are trained to understand programs with the strongest labor market and transfer outcomes, as well as gaps in participation in those programs by race, ethnicity, and gender.

Career and Life Skills

9. Multiple times throughout their college experience, all students receive advising on career exploration and have opportunities to practice key career skills, such as interviewing and networking.
10. The college provides all students training in life skills directly tied to economic mobility, including financial literacy and security, navigating the job market, and interviewing.

Job Placement and Post-Graduation Transitions

11. The college plays an active role in connecting all CTE students to job opportunities.
12. The college collects feedback about the satisfaction of alumni and employers and proactively uses that information to improve program quality and inform employers' ability to transition and onboard new graduates.
13. Students in workforce programs receive regular coaching and mentoring from someone within the industry sector or employer where they aim to work.

Develop Employer Partnerships

Select and Engage Employers

1. The college president and cabinet conduct targeted outreach to important regional employers to maintain existing relationships and to develop new relationships with large and growing employers and sectors.
2. The college president, cabinet, and program heads have routine ways to understand employers' perspective on their turf, such as by serving on industry advisory boards, regional workforce organizations, and trade and industry associations.
3. The college equips program leaders to approach employers and respond to employer requests, by providing training on how to collect data on job growth, turnover, and wages; how to approach engagement with questions about employer perspectives and incentives; how to make the business case for partnership; and what information is available from different actors within a company.

Business-Friendly On-Ramps and Management Processes

4. Communication and materials from the college are business-friendly. They are targeted to employer needs and incentives, avoid lengthy text and academic jargon, and have uncluttered designs.
5. The college has strong staff capacity for employer outreach and relationship maintenance, both in numbers of employees and their skill sets (such as being able to negotiate and avoid academic jargon).
6. The college has a system that enables people to be responsive to employers. The system stores employer contact and background information, prompts staff to respond quickly to inquiries, and helps schedule regular touchpoints.
7. The college builds employer partnerships by emphasizing benefits to the employer's talent pipeline, yielding long-term scaled employer investments rather than one-time or short-term corporate charity.
8. College leaders are creative and flexible in brainstorming partnership and resource contribution options in line with employers' varying capacities and the college's existing needs.

Convene Partners to Scale Impact

9. The college collects and presents to employers current data on the regional labor market, providing insights on topics like trends in skills gaps, demographic changes, and the trajectory to good wages.
10. The college periodically convenes employers by sector in order to collectively solve problems faced by multiple employers.
11. The college convenes other education providers to solve workforce challenges that the community college cannot solve alone. ■

Research Methodology

Overview Our goal was to identify and learn from a diverse set of community and technical colleges that achieve strong graduation and labor market outcomes for students. To identify these institutions, we used a combination of quantitative and qualitative methods. We analyzed graduation rates with the methodology used

for the Aspen Prize for Community College Excellence, and we compared median earnings (gathered from the U.S. Department of Education's College Scorecard) to expected earnings (based on institutional characteristics) and median earnings for the community (as identified by the U.S. Census Bureau).

For institutions that performed well in the quantitative analyses, we conducted qualitative analyses to select subjects for research, aiming for a diverse set of institutions with evidence of intentional practices aligned to graduates' success in the labor market. ■

Step 1: Quantitative research

The first step of the analysis aimed to identify community colleges with exceptionally strong earnings outcomes and good graduation outcomes given their institutional contexts.

College Scorecard and Census data were used in a series of regression analyses to predict expected median earnings for community college graduates, controlling for:

- Median earnings by educational attainment in the region
- Total college enrollment
- Enrollment of students receiving federal Pell Grants
- Enrollment of students of color
- Enrollment of part-time students
- Percent of vocational/technical credentials awarded at a college

We ran a multivariate regression controlling for the three variables that explained the most variance in median earnings: Pell enrollment, enrollment of students of color, and median earnings by educational attainment in the region.

We then analyzed the extent to which institutions outperformed regression expectations. We restricted the national group of community colleges to those that met the following thresholds:

- 1) They placed in the top half of U.S. community colleges in metrics used to assess institutions for the 2017 Aspen Prize for Community College Excellence.
- 2) They had a positive average dollars above expectation across all the regressions.

We applied these thresholds across the 972 public community colleges in our analysis (this total does not include the 383 U.S. community and technical colleges with single programs or fewer than 100 students) and identified 286 institutions for further research. While we examined additional institution-level data sets on labor market outcomes, none of the publicly available data was deemed adequate to fairly assess the 972 colleges considered.

Step 2: Expert inquiries and literature review

The Aspen team asked 14 field experts to recommend community colleges from the list of 286 that had strong workforce development practices and results. We also conducted an extensive literature review, searching for reports and case studies of institutions among the 286 that had strong labor market outcomes throughout the college or for sizable programs. The inquiries and literature review identified 60 colleges from among the 286 institutions identified in the quantitative analyses. We then conducted follow-up interviews with several experts and extensive reviews of written material on the 60 institutions—including websites, trade press articles, and news publications—looking for evidence of strong college-wide workforce development practices. This analysis yielded 25 institutions for our research.

Step 3: Research calls

We conducted research calls with workforce leaders at all 25 institutions. Through these calls, we gathered specific examples of effective practice, which, in the aggregate, were used to create a framework for effective institutional practice across several domains. These calls were also used to identify six institutions that employed extensive practices across several domains that were intentional, innovative, and replicable. Among the 10 institutions that exhibited those characteristics, we selected for our site visits six colleges that maximized variation in geography, institutional size, industry sector, and student demographics.

Step 4: Site visits

Based on the framework from Step 3, we developed a research protocol for use during in-person site visits by teams of three or four researchers. In the spring of 2018, the research team spent two days at each institution conducting on-campus interviews with cabinet members, program heads, faculty members, student services staff, students, and community partners, and interviewed employers in the workplace.

Step 5: Targeted additional research calls

After synthesizing the research conducted from the 25 interviews and six site visits, we identified several practices for which additional detail was needed. To fill in these details, we conducted follow-up research calls with colleges (some originally interviewed and eight others) as well as employers and nonprofit organizations the colleges partner with. ■







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