# Designing Career and Technical Education Programs that Help Students Get Good Jobs

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**Education and training beyond the high school level is often seen as an essential component on the path to a good job. Evidence suggests higher levels of education are broadly associated with higher earnings, but a student's return on their investment varies widely depending on program choice, the local labor market, structural barriers faced by historically marginalized groups, and other factors. Despite their best efforts, too many of today's college graduates struggle to find well-paying jobs in their field of choice, and employers struggle to fill entry-level positions.**

The population of students in postsecondary education today is increasingly diverse and faces numerous challenges in navigating the pathways to good jobs. Once considered "nontraditional," these new majority learners[1] represent a wide range of identities that colleges were not designed to accommodate, and in some cases, purposefully excluded. These students are over the age of 24, have dependents, learn part time, work full time, or face other challenges to success in education and the labor market. They are in high need of pathways to economic mobility, but low income and low tolerance for debt create high barriers to pursuing postsecondary education and training.

To deliver on the promise of postsecondary education for these learners, focus could shift to making institutions and programs more *workforce aligned*, that is, designed to help students realize their employment goals (including opportunities for economic security and mobility) and to help employers identify, hire, and retain talent. The purpose of this brief is to provide a design framework for workforce alignment and is part of a larger project that seeks to build knowledge on strategies for workforce alignment (see box1).

**Overview of the Workforce Alignment Study**

The Workforce Alignment Study—funded by Ascendium Education Group—seeks to understand how colleges and other educational institutions can design short-term career and technical education (CTE) programs to ensure students can get good jobs.

Most students who enroll in these programs—once described as nontraditional students—are the new majority in postsecondary programs today and need well-designed programs and enhanced support to help them overcome barriers to opportunity and improve their pathways to economic mobility. These learners include students from low-income and underrepresented communities, as well as students not coming directly from high school, like student parents, adults juggling work and school, returning citizens, and others. The project features this brief, describing a full range of market-aligned and student-centered program design options for college CTE programs; a report analyzing debt and earnings for a set of CTE programs; and a report profiling nursing, business, and welding programs and describing how program design options may shape student outcomes.

# What Do We Know about Workforce-Aligned Strategies?

Definitions of workforce alignment vary, but most reflect the idea that programs must be designed to provide students with the necessary skills to succeed in the labor market, and the supply of students with these skills should match localized job-vacancy demand (Cleary and Van Noy 2014; State Council of Higher Education for Virginia 2020). Vandal (2009) takes a comprehensive view of workforce alignment that considers the various systems affecting workforce preparation and skill building from preK to college and beyond in regional economies. Our definition of workforce alignment takes these concepts a step further to include the steps that not only prepare individuals for in-demand jobs but also ensure students can obtain good jobs and careers with family-sustaining wages, a sense of satisfaction, and opportunities for advancement. Thus, workforce alignment is not just about designing programs that reflect labor market demand and employer needs but also ensuring programs center students and workers in their design and consider ways employer practices need to change to support worker needs.

## Institution-Level Strategies to Support Workforce Alignment

Much of the research on workforce-aligned strategies focuses on institutional strategies. In short-term programs, these studies focus on public community colleges and provide information on how institutions can ensure programs are workforce aligned. Using insights from institutional leaders, the researchers focus on how the "supply" of students meets the "demand" for workers. For example, the Aspen Institute (2019) identified four essential institutional practices in its Workforce Playbook, which was developed through interviews with 30 institutional leaders and in-depth case studies of four colleges. The essential practices advance a vision for talent development and economic mobility, delivering high-quality programs aligned with regional needs, taking intentional steps to support student goals throughout their engagement with the college and developing responsive and mutually

beneficial partnerships with employers. This examination of institutional examples provides important information for higher-education leaders looking to implement workforce-aligned practices for the success of their students.

Jacoby (2021) also provided institutional insights through a survey of community college educators to better understand credit and noncredit programs in career-focused education. Most students in credit programs enrolled in career-focused education, and the majority of students in noncredit programs enrolled in workforce-focused education. The author drew insights on credit and noncredit programs at the institution level and noted the importance of a strategic use of labor market data to drive program delivery along with sustained relationships with employers. This study is important for providing new insights on noncredit workforce education, as well as noting the gaps in information about these programs.

### Program-Level Strategies to Support Workforce Alignment

Researchers have started to mine federal data to understand program-level employment outcomes. Carnevale's (2020) analysis of American Training and Employment Survey data describes the returns of different associate degrees and other shorter-term credentials by program type. New data from the US Department of Education's College Scorecard[2] is filling a gap in knowledge about workforce outcomes by program. As a companion to this report, Scott and colleagues (2022)—focusing on health sciences, business and marketing, computer and information sciences, repair services, protective services, and personal and culinary services—look at the extent to which the local economic and labor market context, institutional factors, and program of study may be drivers of program outcome by examining the return on investment. Although we are beginning to better understand outcomes and returns at the program level, few studies help us understand which strategies drive workforce alignment. We aim to provide a framework for examining program-level strategies to support further research on the relationship between program-level strategies and employment outcomes. To develop this framework, we conducted a literature review that sought to identify those elements of program design shown to be effective or promising in helping students in short-term programs realize career outcomes.

# Supporting Employment Outcomes: A Framework for Workforce Alignment

In this section, we outline a framework for thinking about the ways to support a student's successful journey to the workforce from a short-term postsecondary education program. We highlight the key dimensions and strategies for workforce alignment in figure 1. The key dimensions of workforce alignment include the following:

- **supporting career decisions and navigation**

- **building skills for work**

- **connecting to employment**

Under each of these three dimensions we include the specific strategies associated with them. Bracketing these strategies is the need to be **student centered,** and **market aligned**. By centering students, especially those who face barriers related to their race, ethnicity, gender, or income levels, short-term programs can focus on improving economic outcomes and mobility for students. Students need support finding jobs and careers that are right for them. Those who face structural barriers to accessing good jobs—such as academic challenges based on whether one has access to good elementary and secondary school preparation, lack of access to the right networks, and occupational segregation that shapes student opportunities—require intentional strategies for overcoming these barriers. This points to the need to understand who students are and the challenges they face by using institutional data, asking students what they need, and designing programs that are responsive to those needs.

It is also critical to ensure programs are market aligned. Market aligned strategies have a role to play throughout a student's journey to a postsecondary program and a career. They involve using labor market data to develop programs and engaging employers to shape the design and delivery of programs and related courses. Ongoing collaboration benefits institutions, employers, and students by filling job vacancies and improving retention.

FIGURE 1
**Workforce Alignment Framework**
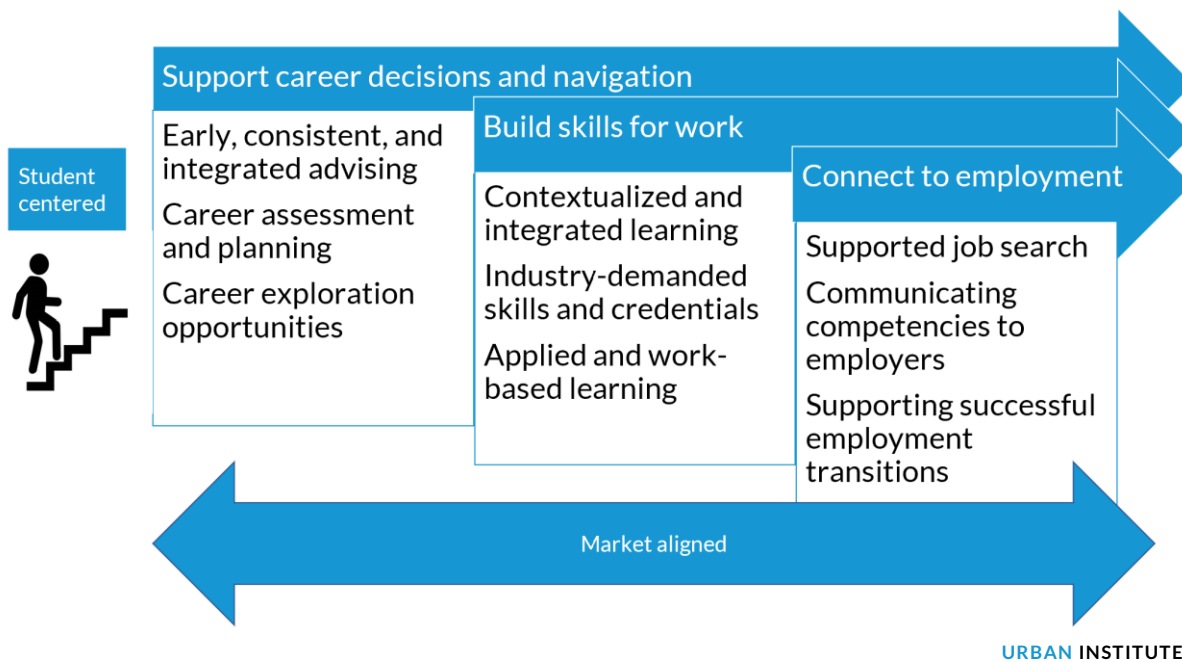


An essential dimension of workforce alignment is **supporting career decisions** along their trajectory through a program. Figure 1 shows students enrolled in a program, but support for career decision-making happens from middle school through people's working lives. Some enter programs after high school, while others enter after working for some time. Students need supports at the beginning of their postsecondary journey to connect them with high-value programs linked to well-paid jobs aligned with

their skills, interests, and goals. Best practices within this dimension involve early and consistent advising, assessment of skills and interests, credit for prior learning, clear information about career pathways, and opportunities for career exploration.

Once enrolled in programs, it is critical that students are **building skills for work**. As part of being workforce aligned, programs should reflect the skills and competencies demanded by industries and employers to ensure success in their job search. Programs can also work to link basic academic and occupational content through contextualized and integrated learning, including industry practitioners whenever possible. Another key strategy is to provide students with the opportunity to apply their skills in the classroom and the workplace through hands-on and work-based learning. Taken together, these strategies prepare students not just for the jobs of today but also for future training and career opportunities.

Students who are low income or disadvantaged in other ways may not have the knowledge, resources, or networks to help them effectively navigate the job search and application process. To support students in **connecting to employment,** programs play important roles in signaling students' skills and competencies to employers through credentials, program descriptions, resumes, and student records. Programs can include assisting students build relationships with industry representatives, search for jobs, and transition to the workforce. Programs can also include working with employers to improve their practices related to hiring, onboarding, and other workplace practices to increase the quality of jobs and create more inclusive workplaces, especially for those who have been subject to systemic racism and discriminatory practices.

## Support Career Decisions

Programs can advance workforce alignment through student advising, career assessment and planning, and career exploration. Ideally, these supports are personalized, holistic, and sustained throughout enrollment. Using a developmental approach, advisors can help students build self-awareness and problem-solving skills to clarify their goals and the steps needed to reach them (Karp 2011). The strategies outlined in this section are important for student success because early preparation and consistent contact can increase engagement in the program, decrease time to completion of credentials, and increase career connectedness, especially for students who lack a strong network (Career Leadership Collective 2021).

Unfortunately, resource limitations at broad-access institutions often hinder the ability of advisors to meet this ideal, with advising loads typically ranging from 800 to 1,200 students per counselor (Karp 2013). As a result, the task of making an appointment with an advisor is left up to the responsibility of each student. This model discourages uptake of career resources, with the National Survey of Student Engagement finding that students were significantly less likely to have sought help with a resume, completed a career self-assessment, or met with guidance staff by the end of their studies than they had anticipated (Leigh 2021). Even those students that do take the initiative to set up meetings are not always able to meet with the same advisor and have to pull information on career, academics, financial

aid, and personal support from multiple different sources (Kalamkarian and Karp 2015). This division and delay of support services leaves many students frustrated and confused while planning for longer-term goals.

Strong guidance is especially important when working to address disparities in outcomes for students of color because advisor can help to guide students to fields of study that have a higher return. The National Postsecondary Student Aid Study, a representative sample of all postsecondary students, reveals stark differences in racial representation across CTE fields of study. White students are most represented in the trades, one of the highest compensated fields of study. In contrast, Latinx students are most represented in consumer services, the lowest-paid field of study.[3] These differences are likely because of the many factors outside the control of postsecondary CTE programs, such as occupational segregation by race, ethnicity and gender, disparities in access to quality education to build foundational skills needed for some fields, and how students are tracked to certain fields of study by college and career guidance counselors at the high school level. At the same time, programs must recognize these inequities and employ recruitment and career counseling strategies to increase student diversity and success in their field (Anderson et al. 2021).

## Strategies for Better Workforce Alignment

In response to these challenges, some counseling programs create more touchpoints along the journey, intervene where most needed, and personalize guidance to address each student's individual needs and goals. To support career decisions and navigation, programs can provide early, consistent, and integrated advising; career assessment and planning; and career exploration opportunities. Box 2 describes some emerging and evidence-based practices for supporting career decisions and navigation.

**Support Career Decisions and Navigation**

- Early, consistent, and integrated advising
    - » Engage in strategic marketing
    - » Provide advising early in the program
    - » Ensure regular meetings with advisors
    - » Make advising mandatory or integrate into program in other ways
    - » Triage advising services to those most in need or reduce caseloads
    - » Establish program-specific advisors
- Career assessment and planning
    - » Establish career goals using assessment tools
    - » Develop career maps and plans linked to advising activities
    - » Use credit for prior learning
- Career exploration
    - » Provide early information on career options using labor market data
    - » Engage employers as part of career exploration and advising

## EARLY, CONSISTENT, AND INTEGRATED ADVISING

To shift from optional career services to a well-integrated, and ideally mandatory, part of student life, programs are investing in advising (Kolenovic et al. 2013). Many different terms are used across programs and the relevant literature to describe the role of staff who provide advising, including advisors, career navigators, and career counselors. Although subtle differences exist between those roles, research indicates the importance of advisors working closely with students to explore career options, make academic plans, and provide job-search counseling (Career Leadership Collective 2021). These activities help advisors (or other similarly positioned staff) to provide comprehensive support for students, thereby improving their students' persistence and career self-efficacy outcomes (Career Leadership Collective 2021). Furthermore, requiring these advising activities has the benefit of reaching students who have had historically less access to them. Multicultural career advising can help to advance racial equity (Career Leadership Collective 2021).

Advising begins even before students enroll in a program. Strategic marketing can help attract underrepresented students to programs. A key part of marketing efforts is ensuring potential applicants understand not only the demands of the program but also the nature of the jobs and careers linked to programs (Dalporto and Tessler 2020). For those students who arrive in their postsecondary intuition without clear goals in mind, academic and career advising can be provided together and proactively. As

explained by Shaffer and Zalewski (2011), the former in the absence of the latter "builds a bridge to nowhere" (p. 75). Once decided on a program, it is good practice to match the student with a program-specific advisor who can provide industry and academic advice, as well as connections to industry representatives (Davidson et al. 2019). Having clear information on career options and supports can help support student success (Bailey et al. 2015; see box 3).

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BOX 3

**Consistent and Easy Access to Information**

Frustrated with high student attrition rates, Miami Dade College found that advisors gave students unclear and inconsistent advising information. In response, the college undertook a comprehensive effort to redesign their programs for ease of navigation and improved student success. Initial positive results in retention prompted the college to hire 25 new full-time advisors, each supported by a peer in student services, to support students through their particular academic program and to provide more personalized employment guidance (Rodicio 2014).

**Source:** Rodicio, Lenore, Susan Mayer, and Davis Jenkins. 2014. "Strengthening Program Pathways through Transformative Change." *New Directions for Community Colleges* 2014 (167): 63–72. https://doi.org/10.1002/cc.20111.

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Because advisors often find themselves working with limited resources and tasked with unmanageable caseloads, programs could hire more advisors to reduce the burden on each (Cormier et al. 2019; Karp 2013). For a less resource-intensive approach, however, advisors can maximize their impact by differentiating students that need high, medium, or low levels of support (Cormier et al. 2019). Faculty can facilitate this triaging of resources by notifying advisors when students are struggling academically or recognizing those excelling. This intrusive style of advising stops students from falling through the cracks because they do not know where to reach out for help. Partnerships with community-based organizations can provide additional support to students to meet their needs (Conway et al. 2015).

CAREER ASSESSMENT AND PLANNING

Programs can help students set off on the right foot by providing transparent outcome data and guiding students through an inventory of their interests, skills, and career goals. This self-examination builds the student's understanding of potential pathways and thus increases confidence in their program decision (Karp 2013). Additionally, students improve on career-selection measures including career decidedness, career maturity, and persistence in majors well aligned with career goals (Hughes and Karp 2004). Self-assessment tools of various kinds are available online, making implementation low cost, efficient, and flexible (see box 4). Evidence indicates this technology is best used, however, in conjunction with a broader advising strategy. The identification of strengths, weaknesses, and goals is most effective when students are met with additional resources and personalized support to apply them within longer-term plans (Hughes and Karp 2004).

First-generation college students can also benefit from a targeted approach because they have been shown to be less likely than their peers to take part in career-advising activities, especially those pertaining to building social capital (Leigh 2021). Programs encourage earlier engagement by mapping out career planning milestones alongside academic ones. This can be done for groups of similar programs, also known as clusters, so students can make use of them even before they settle on a specific credential. Northeast Wisconsin Technical College's business and information technology division, for example, emphasizes career planning during semesters one and two. The milestones in this portion of the map focus on career exploration, from taking a personal inventory of interests and career goals to learning about future experiential learning opportunities. The map then suggests students begin career preparation in their third semester, with activities including mock interviews, resume and cover letter writing, and beginning work-based learning, if available. Lastly, the fourth semester is all about gaining career experience by completing work-based learning and finding full-time employment (Davidson 2019).

Identifying one's skills is important for more than just program and career exploration. Many adult students arrive at their institution with a program of study in mind and prior experience that renders certain courses redundant. Credit for prior learning (sometimes known as a prior learning assessment) enables students to earn credit for their past experiences, ultimately saving them time and money. This can be especially helpful for older students looking to advance or change careers. Despite research showing strong effects on completion for all student subgroups, Black adult and low-income students have significantly lower rates of prior learning assessment uptake (Klein-Collins et al. 2020). The approach to credit for prior learning varies, but common methods include standardized exams or individual assessments of student portfolios by faculty (Valenzuela 2016). In fact, the Council for Adult and Experiential Learning recommends that programs offer multiple options for earning credit to increase student uptake (Klein-Collins et al. 2020). Key challenges are the lack of awareness of credit

for prior learning and costs (including financial and time) exceeding the benefits, leading some to choose course taking. To maximize the potential of credit for prior learning as a tool for improving equity, programs could use data systems to track the usage and completion rates for key subpopulations and address any identified gaps (Klein-Collins et al. 2020).

## CAREER EXPLORATION

Students can engage in career exploration soon after they begin to ensure that their academic and career choices are based on accurate information, including local employer demand and their own interests, strengths, weaknesses, and goals. In an ideal scenario, students are led through mandatory career exploration within their first few weeks of studies (Davidson 2019). This is the approach at the City University of New York's Guttman Community College, where all students enroll in a career exploration course (see box 5). This helps to narrow students' expectations for their program and future job prospects, especially when it comes to broader programs such as business.

BOX 5

**Career Exploration Course**

The Ethnographies of Work class at Guttman Community College is *required* for every first-year student, in which they are guided through introspection about their career goals. In addition to academic readings, the course prepares students to enter the workforce through weekly group advising sessions focused on networking, interviewing, resume writing, and elevator-pitch skills. Employer partnerships offer students the opportunity to visit workplaces, providing an important perspective as students weigh their future career options.

**Source:** Davidson, Brittney, Tess Henthorne, Karthik Ilakkuvan, Linda Perlstein, Keith Witham, and Joshua Wyner. 2019. "The Workforce Playbook: A Community College Guide to Delivering Excellent Career and Technical Education." Washington, DC: Community College Excellence Program.

Exposure to employers can also help with career exploration. Advisors can maintain relationships with employers in the community to bring them to campus, accurately communicate skills demand, and help students gain internships or full employment (Sylvester and Myran 2018). Instructors, especially those who come from industry, can also assist in convening advisory boards, circulating job opportunities, and facilitating introductions to employers. For example, the Miami Animation and Gaming International Complex program brings in animation and gaming industry representatives to advise students, deliver guest lectures, and serve as mentors on projects (Davidson 2019).

Career exploration can also include providing students with information on career options using occupation-specific labor market data. Research suggests that the field of study plays a role in determining economic value for students (Carnevale and Cheah 2018; Scott et al. 2022). Within a sector, wide variation in outcomes exist. Health care on average may yield strong economic prospects but includes some of the lowest-paid occupations as well, like home health care and nursing aide jobs

(Scott et al. 2022). Black and Hispanic students disproportionately enroll in programs with lower wages upon graduation, suggesting the need to implement intentional strategies to support student career exploration and decision making (Anderson et al. 2021). Labor market data are important for informing decisions about whether to offer programs but also for helping students make decisions about career options based on the availability of jobs, pay and benefits, working conditions, and career advancement prospects.

**The Importance of Data**

Postsecondary institutions rely on a mix of publicly available information and data on student outcomes to inform workforce-aligned strategies across the three dimensions that are the focus of this paper. Publicly available data sources include the Bureau of Labor statistics, College Scorecard, employer reported data on hiring, and real-time data derived from web-scraping platforms such as Lightcast. Information may also be available in industry publications and networks to inform programmatic decisions. Data on student outcomes, like employment, hours, and wages, can also be helpful for assessing whether programs are delivering intended goals for students. This information can be used to inform the following:

- Institutional or program-level leaders about decisions about whether to offer a particular program or how many sections to offer based on projected demand

- Students about the availability of jobs, job characteristics, and opportunities for advancement

- Faculty about the design of curricula and coursework or about how well their classes are preparing graduates for jobs

- Career counselors about where students should look for jobs and what skills should be reflected in the job application process

Although data can be collected at the institutional level by offices of institutional research and assessment, many different types of stakeholders—including administrators, faculty, advisors, and students—can benefit from accessing these data in realizing employment goals.

## Wrap-Up

Student success is at the core of these strategies. Early, consistent, and integrated counseling guides students along the steps to planning and achieving their long-term goals. Employers contribute by supplying industry representatives for advising, identifying skills and related job prospects, and providing early career exploration opportunities. Ultimately, commitment to relationship building with students and improving early access to academic, career, and personal supports appear to be a hallmark of successful programs (Sylvester and Myran 2018).

# Build Skills for Work

To improve economic mobility for new majority learners, it is not enough to simply provide robust advising. To prepare students with the right skills for work, education and training institutions must ensure that students are developing the skills needed for work. At the center of efforts to design programs responsive to industry demand are employer and industry partnerships. Those partnerships allow program staff to work with employers to identify in-demand skills and inform the development of curricula that best prepare students for successful employment. They can also collaborate around the development of work-based learning opportunities, which can further develop skills in real-world settings and students the chance to demonstrate their skills to employers.

Too often, students work incredibly hard to earn a credential or degree, only to realize that entry-level jobs require relevant work experience that they do not have (Cahill 2016). Without employer input, programs might not accurately reflect the skills needed to succeed in the workforce. Others arrive at college wanting to quickly gain the skills needed to get a good job, only to find that they are lacking the requisite foundational skills to enroll in required coursework and succeed, and get halted along the way.

## Strategies for Better Workforce Alignment

These challenges have prompted programs to rethink how students learn, from basic skills education to hands-on training. This section discusses strategies including contextualized and integrated instruction, industry demanded and validated credentials, and work-based learning. Box 7 describes promising and evidence-based practices for helping students build the skills for work.

BOX 7
**Build Skills for Work**

- Contextualized and integrated learning
    - » Teach basic skills in the context of occupation skills
    - » Integrate basic skills into occupational skills instruction
- Industry-demanded skills and credentials
    - » Keep up to date on industry trends through publications and networks
    - » Engage employers in regularly reviewing and validating curricula
    - » Engage employers to lead advisory boards
    - » Integrate employers into the program in a variety of ways
    - » Engage employers as strategic partners
- Work-based learning
    - » Sequence work-based learning to begin with workplace visits and job shadowing and transition to on-the-job training experiences
    - » Give students the opportunity to practice real skills in the workplace through required internships, clinicals, apprenticeships, etc.
    - » Ensure work-based learning offers students the chance to perform career-relevant and challenging tasks
    - » Provide compensation for work-based learning experiences that are similar to jobs
    - » Incorporate time for reflection on work-based learning experiences as part classes

## CONTEXTUALIZED AND INTEGRATED LEARNING

Contextualized and integrated approaches to teaching have the potential to accelerate the learning of occupational skills. These strategies link the teaching of foundational skills with occupational content. In doing so, students are exposed to material that can help them decide if this is the right program for them, while they simultaneously build needed basic reading, writing, and mathematics skills. Focusing the learning on concrete applications of interest to the students is helpful for engagement, especially of adult learners, because it relates subject matter content to real world scenarios (Mazzeo et al. 2003; Mohammadi and Grosskopf 2017). Although the primary objective of contextualized learning is to teach basic reading, writing, and mathematics skills, students are still exposed to occupational subject matter through assignments and examples (Perin 2011). A course might include real-life examples from nursing (e.g., using medicine dosage) as part of teaching math skills (Cotner et al. 2021). At Ivy Tech Community College in Indiana, automotive and math faculty collaborate to include developmental math concepts within introductory automotive courses (Baker, Hope, and Karandjeff 2009).

Integrated Basic Education Skills and Training, also called I-BEST, is similar. The key difference is that the goal is to teach content first, not basic skills (Wachen et al. 2010). When resources are available, two teachers, one CTE and one basic skills, can teach the course together (Zeidenberg et al. 2010). Otherwise, it is best practice to equip teachers with professional development time to visit employers and gain a first-hand understanding they can incorporate into the classroom (Alssid 2002). The evidence of the effectiveness of Integrated Basic Education Skills and Training in terms of credential attainment and employment outcomes are mixed with early studies showing positive outcomes from the program, and a more recent impact evaluation showing no detectable effects on credential attainment and earnings. The authors point to the need to focus on longer-term training, first jobs that are of high quality, and the implementation of additional strategies to connect graduates with employment or longer-term educational programs (Martinson and Glosser 2022).

### INDUSTRY-DEMANDED SKILLS AND CREDENTIALS

To ensure student learn relevant material to get jobs and succeed at work requires programs in line with the labor market and employer needs. This involves both mining industry resources and networks to stay up to date on the latest trends and the engagement of employers in the design of curricula. An additional piece of the puzzle is collecting data on student outcomes from programs of study and making sure these data are available to program staff and faculty to use in understanding how effectively they are preparing students and what changes need to be made to ensure student success in the labor market.

Collaboration with industry representatives is key to creating integrated curriculums with industry-recognized and demanded credentials. This can be facilitated by providing teachers with professional development time to meet with industry professionals, and bringing industry professionals into the classroom (Hamilton 2015). For example, at the College of Central Florida, the logistics and supply chain management program collaborates with FedEx to develop relevant curricula, coteach, and offer work-based learning opportunities (Dailey et al. 2017). Strong employer relationships can also provide the opportunity to offer customized training to a business's current workforce. This can include training for cohorts of workers who need to earn new skills—for example, providing contextualized English Language instruction or preparation for a high school equivalency—or providing occupational skills training connected to new technology or through a structured apprenticeship (Barnow and Spaulding 2015).

Employers can be involved in program development and delivery in a variety of different ways. A study of employer partnerships under the Trade Adjustment Assistance Community College and Career Training grants, which involved a $2 billion investment in community colleges to better meet the career needs of community college students, identified a range of ways employers could be involved in programs from advisory roles to more strategic partnerships (see box 8). Although a wealth of literature exists on the importance of employer engagement, research on what kinds of engagement activities are associated with better labor market outcomes for students is limited. A recent meta-analysis of career pathway programs found larger education progress impacts in studies of programs where employers provided input on curricula or program design, although researchers did not find a relationship to improve labor market outcomes (Peck et al. 2021).

**Employer Roles in Career-Focused Programs**

- **Advising:** Employer discusses hiring needs, skills, and competencies with program; advises on or reviews curricula; hires graduates

- **Capacity building:** Employer provides job site tours, speakers, mock interviews, internships, and needs assessment to students; loans or donates equipment and facilities; helps to recruit students

- **Codesigning:** Employer works closely with program staff to develop curricula and college and career pathways; has employees serving as adjunct faculty and preceptors for work-based learning opportunities for students

- **Convening:** Employer participates in an employer-program sectoral partnership; serves as a trusted provider and collaborator to the postsecondary training provider

- **Leading:** Employer takes on a leadership role for a multiemployer or multi-institution partnership; serves as full strategic partner to the postsecondary institution or program

**Source:** Adapted from Scott, Molly, Lauren Eyster, Yipeng Su, David Blount, Alex Trutko, Adrienne Smith, and Karen Gardiner. 2018. "The Employer Perspectives Study: Insights on How to Build and Maintain Strong Employer-College Partnerships. Round 4 TAACCCT Evaluation." Report prepared for the US Department of Labor, Chief Evaluation Office. Rockville, MD: Abt Associates.

To be labor market aligned, academic programs must consistently update their content and delivery to provide opportunities to earn, measure, and signal competencies earned during any given course and sought out by local industries. Curricular changes may cover the manner of delivery, as discussed in the previous section, or the learning goals themselves. For the latter strategy, direct engagement with employers yields valuable information on job-vacancy data and skills demand. Advisory groups are helpful for clarifying learning outcomes with employers, determining how to best measure competencies, and aligning with employer priorities (Cleary and Van Noy 2014). Although limited research is available on what makes for an effective employer advisory group or board, the literature points to the importance of assembling a diverse group, positioning employers to drive advisory committee activities, and making meetings convenient and easy to participate in (Wilson 2015).

### WORK-BASED LEARNING

Well-designed work-based learning benefits students, employers, and professors. Many activities fall under this strategy, including internships, cooperative education, apprenticeships, job-shadowing, practicums, clinical rotations, on-the-job training, business simulations, and apprenticeships (Lebo et al. 2020).

Students gain valuable exposure through work-based learning, as well as academic, technical, and interpersonal skills (Darche et al. 2009). The opportunity to for compensation may be critical from an equity perspective since low-income students may not be able to afford to forego a paying job to reap the benefits of unpaid work-based learning experiences. Additionally, it is important that students are engaged in career-relevant and challenging tasks rather than general support roles (Cahill 2016). It is

best practice to incorporate time for reflection into the classroom, so students can make connections between their experiences and academic work. Another promising strategy is to sequence work-based learning experiences, so students begin with exploratory worksite visits and move to internships and then paid jobs (Darche et al. 2009).

Employers may be interested in providing work-based learning for students for many reasons. First, it helps to build a dependable local talent pipeline by engaging potential employees before they enter the workforce. Second, it may provide a way for students who lack access to networks or who have faced barriers to employment to demonstrate their value directly to an employer. Third, it can provide an additional avenue for advising on the development of the curriculum, clearly defined learning objectives, and assessments to ensure quality of the learning (Rogers-Chapman and Darling-Hammond 2013).

### Wrap-Up

These strategies help students realize their long-term goals by improving the career relevancy of learning, Employers also benefit from the opportunity to connect with and train their future workforce. The next section explores the job search and matching phase of the student journey.

## Connect to Employment

In addition to providing students with the skills needed for work, a key part of workforce alignment is ensuring students can access good jobs related to what they have studied and navigate a successful transition to a new job or employer. Unfortunately, many students face challenges navigating the job search process because they lack job search skills and experience, including how to look for, apply to, and interview for jobs. They also may lack employment networks for finding out about jobs. Evidence suggests implicit bias and discrimination exist in the hiring process, and challenges with navigating the culture of a new work environment may not be inclusive or welcoming.

Strategies for connecting to employment can be linked to career advising that starts on entry to a program and suffer from some of the same capacity issues for career guidance described above. With too few people staffing career counseling and guidance positions, students may not receive the support they need. Those who lack family support or have limited employment networks that provide connections to good jobs are especially in need of this additional support be able to effectively search for and secure jobs. Further challenges exist when employers do not understand what is behind a given credential, leading some to explore alternative representations of skills and competencies, such as microcredentials, digital badges, or e-portfolios.

### Strategies for Better Workforce Alignment

Structured support in navigating the job search and application process can help students identify good jobs that are aligned with their skills, needs, and interests. This support can include strategies for

communicating the knowledge, skills, and abilities they have mastered through the program along with relevant experience gained in past work experience or other educational programs. It also can include supporting the transitions to employment by creating feedback loops that allow for support to students and employers on challenges that arise, as shown in box 9.

**Connect to Employment**

- Supporting the job search
    - » Provide one-on-one support and targeted workshops
    - » Integrate job search support into regular classes and communications
    - » Provide opportunities to practice job search skills (e.g., mock interviews)
    - » Offer opportunities for networking
    - » Share information on job openings
    - » Secure commitments to interview or hire qualified graduates
- Communicating competencies to employers
    - » Offer the opportunity to earn microcredentials that have been validated by employers
    - » Use e-portfolios or other resume alternatives to communicate skills and competencies
- Navigating successful employment transitions
    - » Collect information on job quality and share with students
    - » Create feedback loops with employers
    - » Participate in industry or regional partnerships
    - » Use data on students (hiring, turnover, feedback) to improve job quality

## SUPPORTED JOB SEARCH

Supporting job search is about more than helping students surf the internet for job opportunities. It is about developing the skills needed to search for a job and providing connections to employers and to concrete job opportunities. Job search support can occur through one-on-one support and through employment workshops on how to look for a job or write a resume. Evidence suggests that making job search support easy to access is important. This can involve bringing career counselors into classes periodically to talk about job search strategies and resources, and having staff who are available at night or on weekends so that students with daytime obligations like working or caring for family members can more easily access them (Cotner et al. 2021). Instructors can also add information about job search supports available in more regular course communications (Cotner et al. 2021). Mock interviews can

give students the opportunity to practice key job search skills, sometimes involving actual employers (Cotner et al. 2021; Spaulding and Martin-Caughey 2015).

A key role of staff supporting job search activities is to help expand access to job opportunities beyond student networks and internet posts (Spaulding 2005; Spaulding and Martin-Caughey 2015). Networking can be promoted through work-based learning, alumni events, and participation in industry activities and networking events. Programs can also give opportunities for students to connect directly with employers by inviting industry representatives to speak in the classroom, and through the organization of job fairs (Cotner et al. 2021; Spaulding and Martin-Caughey 2015). Job fairs have been happening more frequently in the online environment, following the COVID-19 pandemic.[4] Employers can be engaged in presenting to students in classrooms and in opportunities for mock interviews sometimes involving actual employers, participation in alumni networking events, and networking through work-based learning (Cotner et al. 2021).

By nurturing relationships with employers, programs can provide easier access to information on job vacancies. Employers can regularly share information with programs about job openings, and in some cases create agreements to interview all program graduates who meet minimum qualifications for open positions (Cotner et al. 2021). For example, Northern Virginia Community College worked with Amazon to create the interview accelerator "in which any student who completes the program through [Northern Virginia Community College] gets a guaranteed interview with a recruiter from Amazon or one of Amazon's partners."[5]

### COMMUNICATING SKILLS AND COMPETENCIES TO EMPLOYERS

For decades, the most commonly used tool for communicating the outcomes of an educational program to employers has been the college transcript paired with a resume, which provide limited information on the knowledge, skills, and abilities of program graduates. These limitations have led to increased use of alternative ways to communicate what students know and can do through microcredentials and e-portfolios. McGreal and Olcott (2022) define microcredentials as "certified documents that provide recognized proofs of the achievement of learning outcomes from shorter, less duration, educational or training activities"(p. 3). Microcredentials can be represented digitally and are sometimes referred to as nano degrees, digital badges, or alternative digital credentials but can also take nondigital forms (McGreal and Olcott 2022). The idea is to increase standardization and transparency about the outcomes of education programs for students and employers.

A barrier to adoption of microcredentials is that employers see them as having inconsistent value, unless they have close ties to the college offering the microcredentials. The proliferation in credentials—one estimate puts the total number at nearly one million unique credentials in 2021—can make it difficult for employers to wade through, leading some to adopt additional strategies for assessing skills as part of hiring (Buckwalter 2017). Programs can address this barrier by creating microcredentials in consultation with local employers. In practice, this might look like a local restaurant including in its job descriptions that "a 'food sanitation' digital badge fulfills a necessary prerequisite, and a local community college offers that badge for completing an evening workshop on that topic" (Finkelstein et al. 2013, p. 17). Colorado Community College, for example, overcame some challenges

with digital badging through expanded communication and marketing efforts (see box 10). The Alternative Credentials Work Group's guide to microcredentials outlines several best practices for institutions seeking to establish and maintain a successful microcredential initiative (AACRAO 2022). Although micro-credentials and digital badges are rapidly evolving, this report lays out a clear set of considerations that can help any institution as they establish protocols, infrastructure, and standards.

E-portfolios are another innovation in how skills and competencies are communicated to employers. Similar to microcredentials, they involve a more robust documentation of skills and experience than a traditional college transcript and resume. However, e-portfolios do not involve any fundamental restructuring of education programs themselves. In a survey of employers conducted by the American Association of Community Colleges and Universities, Finley (2021) found that 9 in 10 employers surveyed found the e-portfolios to be either "somewhat useful" or "very useful" in the hiring process (Finley 2021).

## SUPPORTING SUCCESSFUL EMPLOYMENT TRANSITIONS

A panel of experts advising on the development of an evidence-based framework for career pathway efforts noted the importance of considering job quality as programs connect students with employment opportunities. This includes students having information, to the extent possible, on the key job quality dimensions of a particular job (wage, benefits, hours, work culture, etc.), and programs making sure students are aware of these dimensions (Congdon et al. 2020; Cotner et al. 2021).

Strong and ongoing relationships with employers can make it easier to get this level of detail on job vacancies but can also provide opportunities to have conversations with employers about changes needed in certain practices to improve hiring and jobs (see box 11). Programs can work with employers to change job descriptions to more clearly communicate the skills needed for jobs, improve the hiring process so that qualified applicants have the chance to interview for open positions, and help employers understand what aspects of a job may make it hard to attract and keep talent (level of pay relative to

training required), hours, working conditions, workers needs for support). The focus on job quality is emerging and is a particular challenge for underresourced public institutions who are serving large numbers of students. Budgets do not always support the kind of intense relationship building to allow for colleges to put in place strategies aimed at changing employer practices.

One approach for programs can be to participate in regional industry or sector partnerships, where groups of employers come together with postsecondary training programs to solve human resource problems and devise collective solutions in a particular industry or for a particular set of occupations in a local economy or labor market. Sectoral strategies and partnerships have demonstrated through multiple rigorous studies to be effective in supporting skills preparation and access to good jobs (Maguire 2010; Roder and Elliott 2021).

BOX 11

**Changing Employer Practices**

When long-term care facilities in Rochester, New York, were short on staff, they turned to local community colleges for help. Finger Lakes Community College responded with an offer; they would implement a short-term certified nursing assistant training program, if the employers would commit to increasing wages, creating more opportunities for advancement, and flexible schedules. This turned out to be a win-win solution. To date, about 95 percent of program graduates find employment as certified nursing assistants with an average starting wage of $17 per hour. Employers, on the other hand, reported saving over $30,000 on turnover and training per year thanks to improved retention rates.

**Source:** Iris Palmer, "Monroe Community College is Making Care Jobs, Better Jobs," blog, New America, September 20, 2021, https://www.newamerica.org/education-policy/edcentral/making-care-jobs-better-jobs/.

## Wrap-Up

Students who face barriers to employment can benefit from job search support to help them find good jobs that match their skills and preferences. Efforts to find new ways to communicate credentials through microcredentials, e-portfolios, and learner records require further evidence and face barriers to success because of an oversaturation of credentials. New strategies to change the quality of jobs and employer practices are emerging.

# Conclusion

Research and practice point to steps that programs can take to center students' workforce goals and meet employer demands for a skilled workforce. The efforts to help students get good jobs start from the design of programs and students' first interaction with the program and carry through their journey in a program to a new or better job. Postsecondary education providers offering short-term programs can serve as intermediaries—supporting students, meeting employer needs, and helping to shape the

opportunities available to students—so that new majority learners have access to good jobs and economic mobility. Further research is needed to guide these institutions on implementing strategies that support effective practices and the goals for students and employers. Additional research in this series will seek to build knowledge on effective strategies programs can adopt to help students get good jobs.

# Notes

1   "Who Are New Majority Learners?" Education Design Labs, accessed August 25, 2022, https://eddesignlab.org/newmajoritylearners/.

2   For more information on the US Department of Education's College Scorecard, see https://collegescorecard.ed.gov/.

3   "National Postsecondary Student Aid Survey," US Department of Education, accessed December 2, 2022, https://nces.ed.gov/surveys/npsas/.

4   Roy Maurer, "Career Fairs Go Virtual in Reaction to Pandemic," Society for Human Resource Management, May 18, 2020, https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/career-fairs-go-virtual-reaction-covid19.aspx.

5   Madeline Brown and Lauren Eyster, "Four strategies community colleges are using to connect their students to employment," *Urban Wire* (blog), Urban Institute, January 16, 2020, https://www.urban.org/urban-wire/four-strategies-community-colleges-are-using-connect-their-students-employment

# References

AACRAO (American Association of Collegiate Registrars and Admissions Officers). 2022. "Alternative Credentials: Considerations, Guidance, and Best Practices," Washington, DC: AACRAO.

Abel, Jaison R., Richard Deitz, and Yaquin Su. 2014. "Are Recent Graduates Finding Good Jobs?" New York: Federal Reserve Bank of New York.

Alssid, Julian L., David Gruber, Davis Jenkins, Christopher Mazzeo, Brandon Roberts, and Regina Stanback-Stroud. 2002. "Building a Career Pathways System: Promising Practices in Community College-Centered Workforce Development." New York: Workforce Strategy Center.

Anderson, Theresa, Amanda Briggs, Shayne Spaulding, Eboni Zamani-Gallaher, and Daniel Lopez. 2021. "Racial and Ethnic Equity Gaps in Postsecondary Career and Technical Education: Considerations for Online Learning." Washington, DC: Urban Institute.

Bailey, Thomas, Shanna Smith Jaggars, and Davis Jenkins. 2015. "Implementing Guided Pathways at Miami Dade College: A Case Study." New York: Community College Research Center.

Baker, Elaine DeLott, Laura Hope, and Kelley Karandjeff. 2009. "Contextualized Teaching & Learning: A Faculty Primer." Sacramento, CA: Center for Student Success.

Barnow, Burt S., and Shayne Spaulding. 2015. "Employer Involvement in Workforce Programs." In *Transforming U.S. Workforce Development Policies for the 21st Century*, edited by Carl Van Horn, Tammy Edwards, and Todd Greene, 231–61. Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research.

Buckwalter, Veronica. 2017. "Four Ways to Increase the Value of Short-Term Credentials: A Guide for Community Colleges." Boston: Jobs for the Future.

Cahill, Charlotte. 2016. "Making Work-Based Learning Work." Boston: Jobs for the Future.

Career Leadership Collective. 2021. "Integrating Career Advising for Equitable Student Success." Washington, DC: American Association of State Colleges and Universities.

Carnevale, Anthony P., and Ban Cheah. 2018. "Five Rules of the College and Career Game." Washington, DC: Center on Education and the Workforce.

Carnevale, Anthony P., Kathryn Peltier Campbell, Ben Cheah, Artem Gulish, Michael C. Quinn, and Jeff Strohl. 2022. "The Uncertain Pathway from Youth to a Good Job: How Limits to Educational Affordability, Work-Based Learning, and Career Counseling Impede Progress toward Good Jobs." Washington, DC: Georgetown University Center on Education and the Workforce.

Clearly, Jennifer, and Michelle Van Noy. 2014. "A Framework for Higher Education Labor Market Alignment: Lessons and Future Directions in the Development of Jobs-Driven Strategies." New Brunswick, NJ: Heldrich Center for Workforce Development.

Congdon, William J., Molly M. Scott, Batia Katz, Pamela Loprest, Demetra Nightingale, and Jessica Shakesprere. 2020. *Understanding Good Jobs: A Review of Definitions and Evidence*. Washington, DC: Urban Institute.

Conway, Maureen, Matt Helmer, and Ranita Jain. 2015. *A Snapshot of Courses to Employment Partnerships: Results from a National Survey of Nonprofit Community College Collaborations*. Washington, DC: Workforce Strategy Initiative at the Aspen Institute.

Cormier, Maria, Jasmine Sanders, Julia Raufman, and Diana Strumbos. 2019. "Scaling Success: Lessons from the ASAP Expansion at Bronx Community College." New York: Community College Research Center.

Cotner, Hope, Debra Bragg, Grant Goold, Eric Heiser, Darlene G. Miller, and Michelle Van Noy. 2021. *Designing and Delivering Career Pathways at Community Colleges: A Practice Guide for Educators*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, US Department of Education.

Dailey, Caitlin Rose, Monica Mean, Ivan Charner, Kevin Jordan, and Steven Klein. 2017. *Engaging Employers in Community College Workforce Education Programs: Examples from the Field*. Washington, DC: US Department of Education.

Dalporto, Hannah and Betsy Tessler. 2020. *Voices from the Field: How Community Colleges Are Advancing Equity in Career and Technical Education*. New York: MDRC.

Darche, Svetlana and Nara Nayar. 2009. *Work-Based Learning in California: Opportunities and Models for Expansion*. San Francisco: The James Irvine Foundation.

Daugherty, Lindsay. 2022. "The Value of Education and Training After High School: How Postsecondary Credentials Impact Earnings." Santa Monica, CA: RAND Corporation.

Davidson, Brittney, Tess Henthorne, Karthik Ilakkuvan, Linda Perlstein, Keith Witham, and Joshua Wyner. 2019. "The Workforce Playbook: A Community College Guide to Delivering Excellent Career and Technical Education." Washington, DC: Community College Excellence Program.

Finkelstein, Jonathan, Erin Knight, and Susan Manning. 2013. "The Potential and Value of Using Digital Badges for Adult Learners." Washington, DC: American Institutes for Research.

Finley, Ashley. 2021. *How College Contributes to Workforce Success: Employer Views on What Matters Most*. Washington, DC: Association of American Colleges and Universities.

Hamilton, Asia N. Fuller. 2015. "Work-Based Learning Programs: Providing Experiential Learning Opportunities for All Students." Indianapolis: Pathways Resources Center.

Herndon, Craig M. 2011. "Leveraging Web Technologies in Student Support Self-Services." *New Directions for Community Colleges* 2011 (154): 17–29. https://doi.org/10.1002/cc.443.

Hughes, Katherine L., and Melinda Mechur Karp. 2004. "School-Based Career Development: A Synthesis of the Literature." New York: Institute on Education and the Economy, Columbia University.

Jacoby, Tamar. 2021. "The Indispensable Institute: Taking the Measure of Community College Workforce Education." Washington, DC: Opportunity America.

Kalamkarian, Hoori Santikian and Melinda Mechur Karp. 2015. *Student Attitudes Toward Technology-Mediated Advising Systems*. New York: Columbia University, Teachers College, Community College Research Center.

Karp, Melinda Mechur. 2011. "Toward a New Understanding of Non-Academic Student Support: Four Mechanisms Encouraging Positive Student Outcomes in the Community College." New York: Community College Research Center.

Karp, Melinda Mechur. 2013. "Entering a Program: Helping Students Make Academic and Career Decisions." New York: Community College Research Center.

Klein-Collins, Rebecca. 2012. "Competency-Based Degree Programs in the U.S.: Postsecondary Credentials for Measurable Student Learning and Performance." Indianapolis, IN: Council for Adult and Experiential Learning.

Kolenovic, Zineta, Donna Linderman, and Melinda Mechur Karp. 2013. "Improving Student Outcomes via Comprehensive Supports: Three-Year Outcomes from CUNY's Accelerated Study in Associate Programs (ASAP)." *Community College Review* 41(4) 271–91. https://doi.org/10.1177/0091552113503709.

Lebo, Ann, Jeremy Varner, Paula Nissen, and Chris Russel. 2020. "Iowa Community College Work-Based Learning Implementation Guide." Des Moines: State of Iowa Department of Education.

Leigh, Elaine W. 2021. "Understanding Undergraduates' Career Preparation Experiences." Indianapolis: Strada Education Network.

Sheila Maguire, Joshua Freely, Carol Clymer, Maureen Conway, and Deena Schwartz. 2010. *Tuning in to Local Labor Markets: Findings from the Sectoral Employment Impact Study*. Philadelphia: Public/Private Ventures.

Martinson, Karin, and Asaph Glosser 2022. *Washington State's Integrated Basic Education and Skills Training (I-BEST) Program: Six-Year Impact Report*. OPRE Report 2022-64. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, US Department of Health and Human Services.

Mazzeo, Christopher, Sara Y. Rab, and Julian L. Alssid. 2003. *Building Bridges to College and Careers: Contextualized Basic Skills Programs at Community Colleges*. Brooklyn, NY: Workforce Strategy Center.

McGreal, Rory, and Don Olcott Jr. 2022. "A Strategic Reset: Micro-Credentials for Higher Education Leaders." *Smart Learning Environments* 9 (2022). http://dx.doi.org/10.1186/s40561-022-00190-1.

Michael, Suzanne. 2018. "Colorado Helps Advanced Manufacturing Program: Digital Badging in Colorado." Piscataway, NJ: Rutgers Education and Employment Research Center.

Mohammadi, Arefeh, and Kevin R. Grosskopf. 2017. "Project IMPACT: A Case Study of Developing a Manufactured Construction Workforce through Contextualized Training." Lincoln, NE: University of Nebraska Lincoln.

Peck, Laura R., Deena Schwartz, Julie Strawn, Christopher C. Weiss, Randall Juras, Siobhan Mills de la Rosa, Nathan Greenstein, Tori Morris, Gabriel Durham, and Charlotte Lloyd. 2021. *A Meta-Analysis of 46 Career Pathways Impact Evaluations. Report prepared for the U.S. Department of Labor, Chief Evaluation Office*. Rockville, MD: Abt Associates.

Perin, Dolores. 2011. "Facilitating Student Learning through Contextualization: A Review of Evidence." *Community College Review* 39(3): 268–95. https://doi.org/10.1177/0091552111416227.

Roder, Anne, and Mark Elliott. 2021. *Eleven Year Gains: Project QUEST's Investment Continues to Pay Dividends*. New York: Economic Mobility Corporation.

Rodicio, Lenore, Susan Mayer, and Davis Jenkins. 2014. "Strengthening Program Pathways through Transformative Change." New Directions for Community Colleges 2014 (167): 63–72. https://doi.org/10.1002/cc.20111.

Rogers-Chapman, Felicity M., and Linda Darling-Hammond. 2013. "Preparing 21st Century Citizens: The Role of Work-Based Learning in Linked Learning." Stanford, CA: Stanford Center for Opportunity Policy in Education.

Scott, Molly, Lauren Eyster, Yipeng Su, David Blount, Alex Trutko, Adrienne Smith, and Karen Gardiner. 2018. *The Employer Perspectives Study: Insights on How to Build and Maintain Strong Employer-College Partnerships. Round 4 TAACCCT Evaluation*. Report prepared for the US Department of Labor, Chief Evaluation Office. Rockville, MD: Abt Associates and Washington, DC: Urban Institute.

Scott, Molly, Nathan Sick, and Jincy Wilson. 2022. *Getting the Most out of Short-Term Career and Technical Education (CTE) Credentials*. Washington, DC: Urban Institute.

Shaffer, Leigh S., and Jacqueline M. Zalewski. 2011. "A Human Capital Approach to Career Advising." *NACADA Journal* 31 (1): 75–87. https://doi.org/10.12930/0271-9517-31.1.75

Spaulding, Shayne, and Ananda Martin-Caughey. 2015. "The Goals and Dimensions of Employer Engagement in Workforce Development Programs." Washington, DC: Urban Institute.

State Council of Higher Education for Virginia. 2020. "Report on SCHEV's Higher Education and Workforce Alignment Project." Richmond, VA: State Council of Higher Education for Virginia.

Sylvester, Paul John, and Steve Myran. 2018. "Minding the Gaps: Career Navigators as an Illustration for Supporting Student Growth and Learning." *Community College Journal of Research and Practice* 44 (23): 147–61. https://doi.org/10.1080/10668926.2018.1560375.

Valenzuela, Ireri, Donald MacIntyre, Becky Klein-Collins, and John Clerx. 2016. "Prior Learning Assessment and Competency-Based Education: An Overview of Programs, Policies, and Practices." San Rafael, CA: Research & Planning Group of California Community Colleges, Indianapolis: Council for Adult and Experiential Learning, and Naperville, IL: Moran Technology Consulting.

Vandal, Bruce. 2009. "Revving the Education Engine: Effectively Aligning Education, Workforce and Economic Development Policy." Denver: Education Commission of the States.

Wachen, John, Davis Jenkins, and Michelle Van Noy. 2010. *How I-BEST Works: Findings from a Field Study of Washington State's Integrated Basic Education and Skills Training Program*. New York: Community College Research Center.

Wilson, Randall. 2015. *A Resource Guide to Engaging Employers*. *Boston*: Jobs for the Future.

Zeidenberg, Matthew, Sung-Woo Cho, and Davis Jenkins. 2010. *Washington State's Integrated Basic Education and Skills Training Program (I-BEST): New Evidence of Effectiveness*. New York: Community College Research Center.

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