Employer and Community College Partnerships:

Models and Practices for Supporting Students and Strengthening the Workforce

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Dear Colleague,

Thank you for your interest in understanding how employers and community colleges are working together to improve the education and career outcomes of individuals. Over the course of our surveys with nearly half a million adults across the United States, students—prospective, present, and past—have consistently pointed to the benefits they find when education and training are connected to the world of work.

These survey findings inform our ongoing research and grantmaking. This report provides a landscape review of employer and community college collaborations, and serves as the broader framework within which Strada will continue to research community college and employer partnerships and support the work of our community college grantees.

This paper seeks to accomplish four things:

- Provide a better understanding of the rapidly growing college and employer partnership literature.

- Provide a student-centered lens to understand partnership activities and spotlight practices that improve student experience and outcomes.

- Identify potential areas for future inquiry focused on student perspectives, equity, and employer engagement.

- Inform what we might learn from the institutions awarded grants through Strada's Employer and Community College Partnership Challenge.

We have also published a separate brief sharing insights from a 2022 open call for proposals centered on partnerships between community colleges and employers.

These inquiries frame the research and learning we are pursuing through Strada's Employer and Community College Partnership Challenge. As the two-year grant progresses, we look to learn alongside these partnership teams and share emerging insights. We hope you continue with us on this ongoing learning journey.

Sincerely,
Dave Clayton, Ph.D.
Senior Vice President, Research

Executive Summary

In an era of student enrollment declines, tight labor markets, rising college costs, and a growing lack of confidence in the value of a postsecondary education, community colleges and employers have ample reasons to partner together. Community colleges' explicit commitment to providing accessible education and training makes them well-positioned to respond to local workforce needs. Employers can uniquely contribute to their local community and economy by partnering with community colleges and investing in the training, equipment, skills, and knowledge necessary to fill critical job openings and ensure that students can pursue their career goals.

Developing effective partnerships between community colleges and employers, however, requires a complex coordination of relationships, governance, shared objectives, and practice. While community colleges and employers across the country are partnering in innovative ways on educational and workforce priorities, we know little about the practicalities and challenges of partnership implementation and which partnership elements most effectively support students and lead to gainful employment and a better future.

This report explores the ways in which employers and community colleges can align and engage in collaborative partnerships that support students and strengthen education and career opportunities. We discuss the high-level principles, foundational structures, and day-to-day activities through which partnerships take shape. Our findings draw on a review of research and partnership examples found in reports, case studies, and evaluations from sources including peer-reviewed academic journals, foundations, think tanks, and government agencies.

Developed in conjunction with Strada's $4 million Employer and Community College Partnership Challenge, which awarded two-year grants to 11 community college and employer partnership teams, the research covered in this report will provide the foundation for an ongoing learning agenda we will carry out through the length of the grant. In addition to informing what we may learn from the grant recipients, this report also aims to provide a student-centered lens to understanding partnership activities and practices, and identify potential areas for future inquiry. Below, we provide a summary of the main findings we expand on in the report, based on our review of the employer and community college partnership literature.

Partnerships Defined

This report promotes an expansive understanding of community college and employer partnerships, arguing for their value in serving all learner populations across a range of program pathways. With this in mind, we define partnerships as:

> *Collaborations between one or multiple community colleges with local, regional, or national businesses, groups of firms, a chamber of commerce, industry association, unions, or other sectoral partners to provide educational training and opportunities that are tightly linked to workforce development. Partners may contribute human resources, finances, facilities and equipment, work-based learning experiences, new employment opportunities, incumbent worker training, labor market data and intelligence, and other leadership or advocacy to advance mutual partnership goals and outcomes.* ***In such partnerships, community colleges and employers share ownership, responsibility, and accountability for the success of students and for meeting regional workforce development needs.***

Partnership Structures

Community college and employer partnerships come in many shapes and sizes, and the relationship and engagement between partners can take on many different forms. Common partnership structures include:

- Individual community college and single local, regional, and/or national employer
- Career pathways
- Corporate partnerships with multiple community colleges
- Sectoral-focused partnerships across multiple community colleges and employers
- Community college-employer partnership facilitated by regional workforce intermediary
- Community college-employer partnership facilitated by other intermediaries

Remaining fluid and responsive to what makes the most sense in their environment can help community colleges and employers develop the best structures to achieve their goals. Learning from peers who are developing or implementing similar partnerships can provide insights into what might work most effectively in certain contexts.

Partnership Conditions

The environment for community college and employer partnerships is intimately shaped by federal, state, and local policy contexts. Together, federal and state policies and investments can enable an environment in which partnerships are more likely to thrive.

Federal Investments

Major federal investments, from TAACCCT and the American Rescue Plan to more recent efforts with the Inflation Reduction Act of 2022, the Infrastructure Investment and Jobs Act, and the CHIPS and Science Act of 2022, have catalyzed favorable partnership conditions through an influx of resources during times of great economic unrest, uncertainty, and upheaval. This era of federal investment helped start community college and employer partnerships with the potential to spur workforce development, improve workforce partnerships, and catalyze opportunities for more individuals.

State Policies

States play a critical role in implementing and sustaining systems and policies that support community college and employer partnerships to meet their dual goals of developing a well-trained workforce and attracting and retaining employers. States can indirectly encourage community college and employer partnerships to ensure students are successful and well-trained in their program of study through several kinds of funding initiatives, including grants, funds, performance-based funding incentives, and adult promise programs, as well as other programmatic efforts to spur coordination among community colleges, employers, and intermediaries.

Processes for Effective Partnerships

High-level divergence in mission and priorities, as well as more practical differences in functioning, operations, and terminology, can risk derailing partnership development. To ensure partnership alignment:

- **Establish a shared sense of value:** Taking time to articulate a mutual value proposition at the start of an engagement can lead to deeper alignment on shared goals and strategies.
- **Develop leadership buy-in:** Strong leadership buy-in from institutional and employer entities also promotes stronger and more sustained partnerships.

- **Build industry knowledge:** For community colleges, positioning themselves as a valuable partner to employers often means developing ways to more nimbly respond to economic or workforce influences and becoming experts on local industry and labor market needs.

- **Engage in mutually supportive professional development:** Colleges and employers each have a role to play in helping the other develop the relevant knowledge and expertise to make the partnership a success. Employers can support colleges in building industry expertise, for example, while also benefiting from colleges' deep experience understanding and supporting diverse learner needs.

- **Invest in relationship management:** Identify a dedicated relationship owner, create incentives and accountability, engage multiple stakeholders, and maintain frequent communication

- **Conduct tailored and timely outreach:** Regular interactions with clear objectives and follow-through make employer and community college partnerships stronger.

- **Collaborate with data:** Access to education and employment data facilitates alignment by promoting a shared understanding of each partner's needs, strengths, and opportunities.

Partnership Activities

Partnerships entail a variety of activities to meet stated goals including: designing or collaborating on curriculum; faculty professional development and teaching; academic or career support services; resource-sharing; and ecosystem building. However, consideration of the following three practices can ensure success for students and help meet or exceed the goals of the partnership:

- Financial resources
- Guidance
- Work-based learning

Future Opportunities

Gain a Better Understanding of the Student and Employer Experiences

While our landscape research has revealed a multitude of models and examples for effective partnership development, it also has shone a light on areas in which further research could move the field forward. One area is understanding more about the learner experience in partnerships and learning from models that elevate the student voice in partnership activities, particularly the voice of those historically underrepresented in education. Strada Education Foundation's long-standing research interests in student perspectives and experiences provide an opportunity to further understand the student voice in employer and community college partnerships. Another area is exploring the employer role in partnerships with special attention to the types of employer engagements and commitments that lead to successful partnership outcomes.

Learning from Community College and Employer Partnerships

We plan to continue exploring these areas in close conjunction with the Strada's Employer and Community College Partnership Challenge. As the two-year grant progresses, we will look to learn alongside these partnership teams and share insights on emerging learnings.

Introduction: Why Do Employer and Community College Partnerships Matter Right Now?

In an era of student enrollment declines, tight labor markets, rising college costs, and a growing lack of confidence in the value of a postsecondary education, community colleges and employers have ample reasons to partner together. Educating more than 40 percent of U.S. undergraduates, community colleges are uniquely positioned to engage with employers who desire local talent because of these institutions' explicit commitment to educating and training learners within communities in affordable and accessible ways.[1] Employers can uniquely contribute to their local community and economy while filling critical job openings by investing in the training, equipment, skills, and knowledge that students need to pursue their career goals and find a "good job."[2,3]

Developing effective partnerships between community colleges and employers, however, requires a complex coordination of governance, objectives, and practice. Colleges and employers alike are often skeptical of a partnership's value and disappointed in outcomes.[4] They come to the table often motivated by different circumstances and work under different norms, assumptions, and incentives. While the field is rife with examples across the country of innovative ways that community colleges and local or national employers are partnering to more clearly respond to educational and workforce needs, we know little about the practicalities and challenges of partnership implementation and which partnership elements most effectively support students in their pursuit of learning and lead to gainful employment, fair pay, and a better future.

As employers and community colleges engage in partnerships, they are tasked with both creating a shared vision for their aspirations and navigating the details of activities and relationships that make that vision a reality. This landscape review explores the high-level principles, foundational structures, and day-to-day activities through which partnerships take shape. We seek to understand partnership roles and implications for the college, employer, and student, as well as identify areas in which further research and innovation are needed.

Report Goals and Outline

This report was developed in conjunction with Strada's $4 million Employer and Community College Partnership Challenge, which awarded two-year grants to 11 community college and employer partnership teams working together to address regional economic needs and strengthen pathways to employment for students. Both the report and the Challenge have been deeply informed by a dual focus on building collaborative alignment between institutions and employers, and engaging in student-centered practices that are linked to better education and employment outcomes, including: providing financial assistance and essential services; engaging students through guidance and advising; and creating structured work-based learning opportunities.

Our aims for this report are threefold:

1. Provide a foundational understanding of the rapidly growing college and employer partnership literature that informs what we might learn from the institutions awarded grants through Strada's Employer and Community College Partnership Challenge;

2. Provide a student-centered lens to understand partnership activities and spotlight practices that improve student experience and outcomes; and

3. Identify potential areas for future inquiry focused on student perspectives, equity, and employer engagement.

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1   Mark M. D'Amico, Cameron M. Sublett, and James E. Bartlett II, "Preparing the Workforce in Today's Community Colleges: Issues and Implications for Higher Education Leaders," (Washington, DC: American Council on Education, 2019).
2   Good Jobs Project, (Washington, DC: Georgetown University Center on Education and the Workforce, 2017).
3   "Statement on Good Jobs," (Washington, DC: Aspen Institute, 2022).
4   Joseph B. Fuller and Manjari Raman, "The Partnership Imperative: Community Colleges, Employers, and America's Chronic Skills Gap," (Boston: Harvard Business School, 2022).

We begin by offering a new definition of employer and community college partnerships that elevates the student as a key partnership stakeholder. Next, we review common partnership structures and models before moving into a discussion of the federal- and state-level policies and investments that have informed these structures. From there, we shift to a more practice-based discussion of partnership strategies and activities. We review strategies for creating and sustaining alignment between institutions and employers as well as practices for engaging and supporting students, providing examples from a range of community college and employer partnerships. We conclude by offering potential areas for future research and innovation.

Framing and Defining Community College and Employer Partnerships

Community colleges have historically aimed to provide an accessible and affordable education to their local communities. They also have worked to ensure students are prepared for careers and can meet changing workforce needs.[5] Workforce training at community colleges has often been criticized for its lack of alignment to local labor market needs, especially for middle-skill jobs in growing areas such as information technology, advanced manufacturing, and healthcare.[6,7,8] Yet the conditions in which community colleges operate today mean that they cannot do this work alone, nor should they. [9,10,11,12] These conditions include the pace at which technology and work is evolving, a crowded marketplace of credentials,[13] stretched fiscal resources, and changing student priorities — especially in the wake of the pandemic. Employers are motivated to partner with community colleges, particularly when they believe such collaboration will help train more skilled workers, fill hiring needs, and/or lower employee turnover.[14,15] But what exactly does it mean to partner — and what could or should that look like given the changing landscape of education and training today? More importantly, how can we ensure that such education and industry partnerships meet the needs of all types of learners at different stages of their training and careers, from young professionals looking for their first job to incumbent workers looking to move up in their organization, or career switchers looking to reskill and retrain?

Previous definitions of community college and employer (or industry) partnerships indicate the multitude of players that can be involved. For example, Soares proposed the following definition of community college and employer partnerships:

> *"A Community College and Industry Partnership is a collaboration between a community college and an individual business, group of firms, chamber of commerce, industry association or sector partnership with the purpose of using the resources of all partners to create alternative college education programs for non-traditional students (both younger workforce entrants and older ones in need of skills and education upgrades) that are tightly linked to regional economic development and labor force needs. Partners can contribute human resources, finances, facilities and equipment and leadership to accomplishing the partnership's agreed upon goals and outcomes." (p. 8)[16]*

This definition can be broadened to acknowledge that partnerships among community colleges and employers may not be limited to just "alternative college education programs for non-traditional students." They are now essential parts of delivering an educational experience for all types of learners across noncredit and credit landscapes. These partnerships may involve multiple community colleges or entire systems and, ideally, involve work-based learning and other work experiences that help improve student outcomes. Finally, these partnerships should have a sense of shared accountability to students. Therefore, we define community college and employer partnerships as:

> *Collaborations between one or multiple community colleges with local, regional, or national businesses, groups of firms, a chamber of commerce, industry association, unions, or other sectoral partners to provide educational training and opportunities that are tightly linked to workforce development. Partners may contribute human resources, finances, facilities and equipment,*

5   Arthur M. Cohen, Florence B. Brawer, and Carrie B. Kisker, "Chapter 1: Evolving Priorities and Expectations of the Community College," in *The American Community College*, 6th ed., [San Francisco: Jossey-Bass, 2013]:23-24.

6   Michel Grosz, "Do postsecondary training programs respond to changes in the labor market?", 2019.

7   Harry Holzer, "Higher Education and Workforce Policy: Creating More Skilled Workers (and Jobs For Them to Fill)," (Washington, DC: The Brookings Institution, 2015).

8   Jennifer Zeisler, "We Need a National Strategy on Middle-Skill Jobs. Without it, Here's What Colleges can do," Work Shift, last modified March 29, 2022.

9   Maria Heidkamp and Thomas Hilliard, "A review of community college-employer partnerships and initiatives: Expanding opportunities for Job Seekers with Disabilities," (Ithaca, NY: Employer Assistance and Resource Network on Disability Inclusion, n.d.).

10   D'Amico, Sublett, and Bartlett II, "Preparing the Workforce in Today's Community Colleges: Issues and Implications for Higher Education Leaders,"

11   Tamar Jacoby, The Indispensable Institution: Taking the Measure of Community College Workforce Education,,(Washington, DC: Opportunity America, 2021).

12   Michael Collins, Ensuring a More Equitable Future: Addressing Skills Gaps Through Multiple, Nuanced Solutions, (Washington, DC: Postsecondary Value Commission, 2021).

13   Sarah Weissman, "Credentialing Market is 'Innovation' and 'Chaos'," Inside Higher Ed, December 7, 2022.

14   "A look at partnerships between employers and community and technical colleges," (Waco, TX: Center for Occupational Research and Development, 2021).

15   Molly Scott, Lauren Eyster, Yipeng Su, David Blount, Alex Trutko, Adrienne Smith, and Karen Gardiner, The Employer Perspectives Study: Insights on How to Build and Maintain Strong Employer-College Partnerships, (Rockville, MD, and Washington, DC: Round 4 TAACCCT Evaluation, U.S. Department of Labor, Chief Evaluation Office, 2018).

16   Louis Soares, "Community College and Industry Partnerships," (Washington, DC: Center for American Progress, 2010).

*work-based learning experiences, new employment opportunities, incumbent worker training, labor market data and intelligence, and other leadership or advocacy to advance mutual partnership goals and outcomes. **In such partnerships, community colleges and employers share ownership, responsibility, and accountability for the success of students and for meeting regional workforce development needs.***

We draw on this definition as well as prior research on complex, cross-sector partnerships to frame important features of these partnerships.[17,18,19] As illustrated in Figure 1, these features include:

- The policy and investment conditions that support partnerships;
- Resulting partnership structures and activities; and
- Outcomes of these partnerships.[20]

FIGURE 1.   Cross-Sector Partnership Processes and Outcomes
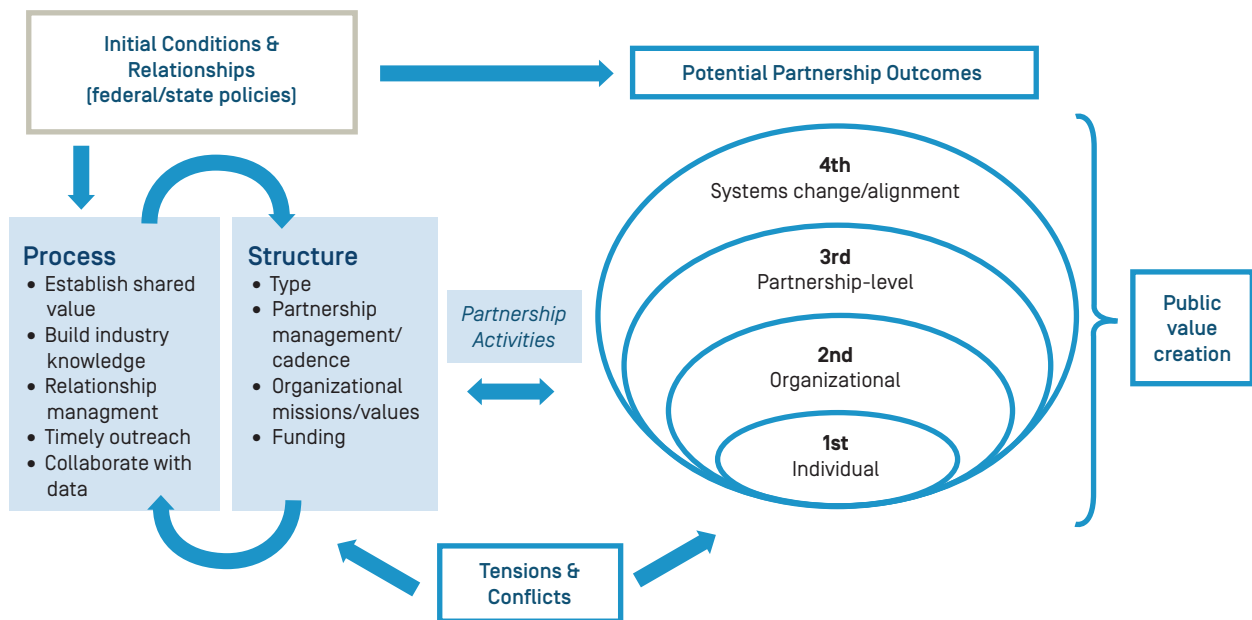
Source: Adapted from Bryson et al. (2015); van Tulder et al (2016); Leigh (2021)

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17   John M. Bryson, Barbara Crosby, and Melissa M. Stone, "Designing and Implementing Cross-Sector Collaborations: Needed and Challenging," *Public Administration Review* 75, no. 5 (2015): 651.

18   Elaine W. Leigh, "Confronting the System: How Local Cross-Sector Education Collaborations Address Barriers to Postsecondary Access and Attainment," PhD diss., (University of Pennsylvania, 2021): 242.

19   Rob van Tulder, Maria M. Seitanidi, Andrew Crane, and Stephen Brammer, "Enhancing the Impact of Cross-Sector Partnerships: Four Impact Loops for Channeling Partnership Studies," *Journal of Business Ethics* 135, no. 1[2016]: 12.

20   Although these outcomes are not always easily measured, assessing the lasting impact of partnerships should take into account individual, institutional, employer, community and workforce development outcomes. While our review focuses on initial conditions and contexts, structures, activities, and factors influencing partnership health, we anticipate learning more about what improves particular student and partnership-level outcomes through the efforts of Strada grantees and making those learnings available over time.

Common Partnership Structures

Community college and employer partnerships come in many shapes and sizes, and the relationship and engagement between partners can take on many different forms.[21] In practice, postsecondary and employer partnerships have typically been part of either "sectoral" training approaches or a career pathways approach to ensure alignment between higher education offerings and industry.[22]

Innovated upon by nonprofit workforce development agencies,[23,24] sectoral training partnerships target specific industries or occupation clusters that are critical for most local economies. They typically involve workforce intermediaries that will coordinate partnerships between training providers (usually community colleges) and employers to develop worker training and supports aligned with sector needs and advancement opportunities, often focusing on information technology, health care, advanced manufacturing, and some service fields.[25]

Other approaches combine classroom and on-the-job training experiences or involve developing a sequence of credentials to help workers gain advanced skills in their field of study. This strategy is often tied to economic mobility goals to help learners transition to higher-skill and higher-paying occupations.[26]

A review of community college-employer partnerships from the Employer Assistance and Resource Network on Disability Inclusion offers six different forms of partnership structures:

1. Individual community college/single employer - with deep employer engagement
2. Career pathways
3. Corporate partnerships with multiple community colleges
4. Sectoral partnerships across multiple community colleges and employers
5. Community college-employer partnership facilitated by a regional workforce intermediary
6. Community college-employer partnership facilitated by other intermediaries.[27]

In Table 1, we describe each partnership type in further detail and offer examples from our research.

21 Jacoby. The Indispensable Institution: Taking the Measure of Community College and Workforce Education.
22 Holzer, "Higher Education and Workforce Policy: Creating More Skilled Workers (and Jobs For Them to Fill).".
23 Carol Clymer, Anne Roder, and Laura Wyckoff, "Targeting Industries, Training Workers and Improving Opportunities: The Final Report from the Sectoral Employment Initiative," (Philadelphia: Public/Private Ventures, 2008).
24 Betsy L. Tessler and Erika B. Lewy, "Sectoral Training at Community Colleges," (New York: MDRC, 2022).
25 Tessler and Lewy, "Sectoral Training at Community Colleges."
26 Tessler and Lewy, "Sectoral Training at Community Colleges."
27 Heidkamp and Hilliard, "A review of community college-employer partnerships and initiatives: Expanding opportunities for Job Seekers with Disabilities."

TABLE 1. Types of Community College-Employer Partnerships

Partnership Type	Description	Example
Individual community college + single employer	One employer partnering with one institution.	**The Boeing Company & Mesa Community College.**[28] In 2019, Boeing approached Mesa CC to help train 450 electrical technicians through a credit-bearing bootcamp. After 36 hours of instruction, learners earn an industry certification, three credit hours, and interview preferences with Boeing.
Career pathways	An employer(s) and institution(s) incorporate classroom and on- the- job training into nondegree or degree-bearing programs.	**Bates Technical College-AJAC Apprenticeships.**[29] Through multiple pathways, this program provides pre-apprenticeship and apprenticeship programs that can lead to a certificate or degree in high-paying advanced manufacturing jobs.
Corporate partnerships with multiple community colleges	An employer partners with multiple colleges or college systems to sponsor education and workforce training in several areas of study.	**Tesla Start.**[30] With partnerships at 11 community colleges, Tesla helps integrate an intensive training capstone program into automotive service, collision, and manufacturing curricula to provide students with technical expertise and certifications to qualify for Tesla or other related jobs.
Sectoral partnerships across multiple community colleges and employers	Industry-focused partnerships between community colleges and employers that may be regional, statewide, or national, often utilizing several work- and- learn strategies.	**Boston Healthcare Careers Consortium.**[31] Involving more than 50 workforce development organizations, employers, educational institutions, and other community organizations, the BHCC helps align strategies and resources to promote health care education and training opportunities that align with industry needs.
Community college-employer partnership facilitated by regional workforce intermediary	A third-party economic development organization or similar regional entity helps broker a community college and employer partnership that meets local workforce needs.	**TuSimple and Pima Community College, facilitated by Sun Corridor, Inc.**[32] Through Sun Corridor, a regional alliance and public/private economic development organization in southern Arizona, Pima and TuSimple launched a partnership funded through the U.S. Department of Transportation to offer the first certificate program training autonomous vehicle truck drivers.
Community college-employer partnership facilitated by other intermediaries	Other nonprofit intermediaries facilitate services, programming, and capacity-building activities for companies to improve the development of a skilled workforce and develop education and training programs to meet sector needs.	**U.S. Department of Commerce National Institute of Standards and Technology (NIST) and Manufacturing Extension Partnerships (MEPs).**[33] Available in all 50 states, MEPs form a nationwide resource network for U.S. manufacturers. For example, PolarisMEP in Rhode Island is a statewide nonprofit organization providing business improvement programming for manufacturing companies. It partners with the Community College of Rhode Island to provide machinist training.[34]

[28] Shalin Jyotishi, "This Employer-Aligned & Stackable Credential Bootcamp Delivers," (Washington, DC: New America, 2021).

[29] "Apprenticeships," (Tacoma, WA: Bates Technical College, n.d.).

[30] "Tesla Start: Prepare for a Career at Tesla," (Austin, TX: Tesla, n.d.).

[31] "About Boston Healthcare Careers Consortium," (Boston Healthcare Careers Consortium, n.d.).

[32] Shalin Jyotishi, Ian Roark, and Missy Blair, "Community College Partners Up to Create First Certificate Program to Train Autonomous Vehicle Truckers," (Washington, DC: New America, 2022).

[33] "Manufacturing Extension Partnership," (Gaithersburg, MD: U.S. Department of Commerce, National Institute of Standards and Technology, n.d.).

[34] "New Crop of Machinists Launched by CCRI and Polaris MEP," (Providence, RI: Polaris MEP, n.d.).

While evaluations of sectoral partnerships show promise in increasing earnings, especially among workers who earn less than a living wage,[35] little research has systematically reviewed if one type of partnership structure is more conducive to achieving better individual, institutional, or employer outcomes. Likely given differences in local and regional contexts, *remaining fluid and responsive to what makes the most sense in their environment can help community colleges and employers develop the best structures to achieve their goals. Learning from peers who are developing or implementing similar partnerships can provide insights into what might work most effectively in certain contexts.*

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35 Holzer, "Higher Education and Workforce Policy: Creating More Skilled Workers and Jobs For Them to Fill."

Policies Influencing Partnership Development

Federal, state, and local policy contexts shape community college and employer partnerships

Federal Policy

Major federal investments — from TAACCCT and the American Rescue Plan, to more recent efforts with the Inflation Reduction Act of 2022, the Infrastructure Investment and Jobs Act, and the CHIPS and Science Act of 2022 — have catalyzed the development of partnerships by providing an influx of resources during times of great economic unrest (e.g., COVID-19, the Great Recession).

Trade Adjustment Assistance Community College and Career Training (TAACCCT)

The TAACCCT program was an unprecedented federal investment in the nation's community and technical colleges, sponsored by the U.S. Department of Labor and supported by the U.S. Department of Education. To improve outcomes especially for adult workers after the Great Recession, the program sought to support improved integration of postsecondary education and workforce training, primarily at community and technical colleges. Between 2011 and 2018, 256 grants worth almost $2 billion were awarded to colleges and universities.[36] Of 729 colleges that received a grant, 630 (86 percent) were community colleges. According to the DOL, TAACCCT grants created more than 2,700 new or redesigned programs, enrolling over 500,000 students who earned more than 350,000 credentials.

With TAACCCT grantees required to conduct third-party evaluations, learnings abound about the design and implementation of programs and their impacts on educational and employment outcomes. Across the four rounds of funding, TAACCCT grants were broadly used to help colleges review or redesign curriculum to match industry needs, experiment with online and hybrid instructional delivery, and develop other academic and job-placement services, particularly for Trade Adjustment Assistance (TAA)-eligible or other adult workers for high-wage, high-skill jobs in growth industries.

Overall, across a compilation of evaluation studies, the TAACCCT initiative had significant and positive impacts on program or credential completion.[37,38] TAACCCT participants were also about 30 percent more likely to be employed or experience a wage increase than comparison students.[39,40,41] The partnership impacts of TAACCCT can be seen in the increased capacity for community colleges to build and sustain programs aligned to industry needs, provide wraparound supports to meet student needs, and share and utilize data.[42] The initiative also highlighted the critical importance of having deeply engaged institutional leadership and leveraging other internal and external partnerships to fully implement and sustain such efforts.[43]

EXAMPLE:

> Federal investments have helped shape state policies and programs that aim to improve accelerated career pathways in high-demand occupations. With over $57 million in TAACCCT investments, Colorado launched two large state consortia projects. The Colorado Helps Advanced Manufacturing Program created new policies to help students receive credit for prior learning and the Colorado Energy Training Consortium streamlined developmental education requirements across institutions and programs.[44,45]

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[36] Grant Blume, Elizabeth Meza, Deborah Bragg, and Ivy Love, "Estimating the Impact of the Nation's Largest Single Investment in Community Colleges: Lessons and Limitations of a Meta-Analysis of TAACCCT Evaluations," (Washington, DC: New America, 2019).

[37] Blume, Meza, Bragg, and Love, "Estimating the Impact of the Nation's Largest Single Investment in Community Colleges: Lessons and Limitations of a Meta-Analysis of TAACCCT Evaluations."

[38] Molly M. Scott, Daniel Kuehn, Lauren Eyster, Amanda Briggs, Christin Durham, Natalie Spievack, Alphonse Simon, and Burt Barnow, "Implementation, Outcomes, and Impact Synthesis Report: Round 4 TAACCCT Third-Party Evaluations," (Rockville, MD: Abt Associates, 2020).

[39] Blume, Meza, Bragg, and Love, "Estimating the Impact of the Nation's Largest Single Investment in Community Colleges: Lessons and Limitations of a Meta-Analysis of TAACCCT Evaluations."

[40] Scott, Kuehn, Eyster, Briggs, Durham, Spievack, Simon, and Barnow, "Implementation, Outcomes, and Impact Synthesis Report: Round 4 TAACCCT Third-Party Evaluations."

[41] Laura Eyster and Debra Bragg, "The Legacy of TAACCCT: Lessons on Change in Community Colleges," New Directions for Community Colleges 193 (2021): 145.

[42] Jennifer Freeman, Christian Lagarde, and Erica Acevedo, "Enduring Systemic Changes: Lessons from TAACCCT," New Directions for Community Colleges 193 (2021): 24.

[43] Freeman, Lagarde, and Acevedo, "Enduring Systemic Changes: Lessons from TAACCCT."

[44] TAACCCT State Profiles, (Washington, DC: U.S. Department of Labor, Employment and Training Administration, n.d.).

[45] Heather McKay, Suzanne Michael, and Khudodod Khudododov, "The Transformation of Colorado's Developmental Education Program," (Piscataway, NJ: Rutgers Education and Employment Research Center, 2016).

Additional Federal Policy and Investment

Additional U.S. Department of Labor investments, such as the America's Promise Job-Driven Grants, Strengthening Working Families Initiative, and TechHire Partnership Grants of 2016,[46,47] have continued to build the capacity of agencies to support workers across service systems and address barriers to training and employment through partnership. Building on these lessons, in 2021, the DOL launched a new series of investments — the Strengthening Community College Training Grants — which focus on skill development, rapid reskilling, and further developing equitable access to accelerated career pathways.[48]

Programs such as TAACCCT, TechHire, and the Strengthening Working Families Initiative provided increased momentum for major federal legislation focused on education and workforce development, such as the Workforce Investment and Opportunity Act and related efforts to expand career and technical education through Perkins V.[49] Coupled with larger federal recovery efforts from the pandemic in the American Rescue Plan, including the $1 billion Build Back Better Challenge and $500 million Good Jobs Challenge, among others,[50,51,52] these investments helped start community college and employer partnerships with the potential to spur workforce development, improve workforce partnerships, and catalyze opportunities for more individuals.

State Policy

Whether in response to federal investment, through WIOA compliance, or other policies, states can play a critical role in implementing and sustaining systems that support community college and employer partnerships to meet dual goals of developing a well-trained workforce and attracting and retaining employers.[53] While states vary in their approaches, policies may address learners, institutions, and employers across four areas:

1. Education, work experience, and credentialing

2. Providing financial incentives to students or institutions

3. Improving data alignment between education and workforce systems

4. Encouraging commissions, working groups, and other intermediary groups to coalesce and collaborate to align education and workforce goals.[54]

Education, Work Experience, and Credentialing

States have several tools to encourage efficiency, portability, and stackability of credits and credentials through their higher education and training programs. For example, states can create laws or guidance or incentivize planning and implementation with state tax dollars to ensure learners can access workforce-aligned education experiences. States also can encourage the adoption of policies for institutions to issue credit for prior learning, allow community colleges to provide baccalaureate degrees, advance state articulation agreements, or strengthen work-based learning opportunities, like registered apprenticeships.[55,56,57,58]

46 "U.S. Labor Department Announces $100M America's Promise Grant Competition to Strengthen, Expand Regional Job Training Partnerships," (Washington, DC: U.S. Department of Labor, Employment and Training Administration, 2016).

47 "Evaluation of the TechHire and Strengthening Working Families Initiative (SWFI) Grant Programs," (Washington, DC: U.S. Department of Labor, Office of the Assistant Secretary for Policy, 2021).

48 Community College Daily Staff, "$45 million in SCCTG Funding Awarded to 13 Colleges," Community College Daily, last modified September 7, 2022.

49 Cameron Sublett, Walter Ecton, Sabrina Klein, Adam Atwell, and Mark M. D'Amico, "Community College Alignment of Workforce Education and Local Labor Markets," Journal of Applied Research in the Community College 28, no. 1 (2021): 179.

50 "American Rescue Plan," (Washington, DC: U.S. Department of Commerce, U.S. Economic Development Administration, n.d.).

51 Matthew Dembicki, "Kudos for Commitments Toward Equitable Workforce Development for Infrastructure Jobs," Community College Daily, last modified November 2, 2022.

52 Stanley Litow, "The Chips Act Shows How to Invest in Education," Barron's, last modified October 10, 2022.

53 Jenna E. Myers and Katherine C. Kellogg, "State Actor Orchestration for Achieving Workforce Development at Scale: Evidence from Four U.S. States," ILR Review 75 no. 1 (2022): 29.

54 Sarah Pingel, "State Workforce Development Policies," (Denver: Education Commission of the States, 2020).

55 Lexi Anderson and Tom Keily, "Statewide Apprenticeships: Building Pathways in Community and Technical Colleges," New Directions for Community Colleges (Winter 2021).

56 Ivy Love and Iris Palmer, "Community College Baccalaureate Programs: A State Policy Framework," (Washington, DC: New America. 2020).

57 Ivy Love, "Why Community College Bachelor's Degrees? Similarities and Differences across Rural Areas," (Washington, DC: New America, 2022).

58 Lindsay Daugherty and Drew M. Anderson, "Stackable Credential Pipelines in Ohio: Evidence on Programs and Earnings Outcomes," (Santa Monica, CA: RAND Corporation, 2021).

Financial incentives

States can indirectly encourage community college and employer partnerships through several kinds of funding levers, including:

- Grants or funds to support students pursuing education and training in high-demand occupations

- Funds provided directly to institutions to develop programs that can direct students into desired career pathways

- Incentives for institutions to develop stackable credential programs, which are often created in partnership with employers

- Performance-based funding incentives tied to upskilling and/or reskilling for incumbent workers of employer partners[59]

- "Adult promise" programs,[60] broadly providing tuition-free education at community colleges to new or returning adult learners pursuing credentials. At least 22 states (in the 2020-21 school year) had developed these programs, with about 41 percent of those programs targeting high-demand occupations for the state.

Data alignment

Access to program-level outcomes data, enrollment data (including for non-credit programs) as well as labor market information by stakeholders, and the ability to convene, discuss, and problem-solve around data, also are essential parts of building partnership efforts, although outcomes data for noncredit programs is currently only available in a few states. (In the following section, we further explore the role of data in building alignment between colleges and employers.)

Encouraging collaboration

States can play powerful coordinating roles — both to improve data alignment and data accessibility between education and workforce systems as well as to encourage coordination of goals and activities among workforce intermediaries (e.g., workforce development boards, industry associations) and training providers.[61] Together, federal investments and state supports can contribute to partnership development. For example, federal TAACCCT investments, along with WIOA regulations, have played a role in developing new relationships between community colleges and workforce intermediaries.[62] Through state-level consortiums and partnerships, workforce intermediaries and community college systems convened more regularly, developed strategic plans and priorities together, helped develop common metrics of progress, and more commonly applied for grants collaboratively.[63]

59 Bryan Wilson, "Stackable Credential Policy Toolkit," (Washington, DC: National Skills Coalition, 2016).
60 Alexandria Walton Radford, Katherine Hughes, Roman Ruiz., Ji Hyun Yang, and Christopher Carvajal Rivera, "Free College Tuition Programs for Adults: The Current Landscape and Directions for the Future," (Arlington, VA: American Institutes for Research, 2021).
61 Myers and Kellogg, "State Actor Orchestration for Achieving Workforce Development at Scale: Evidence from Four U.S. States."
62 "Powerhouse Partnerships: Community Colleges and Workforce Boards Working Together," (Washington, DC: U.S. Department of Labor, Employment and Training Administration, n.d.).
63 "Powerhouse Partnerships: Community Colleges and Workforce Boards Working Together." For more information about individual programs, see the following sources: "2020 Regional Policy Summit on Employment and Skills Training: Business-Led Demand Driven Solutions Summary Report." (Regional Economic Area Partnership: Wichita, Kansas, 2020); "Wisconsin Career Pathways: Postsecondary Education for Low-Income, Low-Skill Adults." (Center on Wisconsin Strategy: Madison, Wisconsin, 2015).

Processes for effective partnerships:
Creating alignment between the community college and employer

Community colleges and their employer partners have developed strong models for creating alignment that leverage each partner's priorities, capabilities, and areas of expertise. By putting student needs at the center and embracing a shared understanding of labor market needs and opportunities, a strongly aligned partnership has the power to deliver outcomes that neither institutions nor employers could achieve on their own. Building this alignment, however, requires partners to bridge divides that can arise across everything from day-to-day logistics to high-level strategic priorities. Below, we discuss foundational challenges to establishing alignment and offer processes that colleges and employers have used to help overcome these challenges.

Tensions and Conflicts in Building Alignment

High-level divergence in mission and priorities as well as more practical differences in functioning, operations, and terminology can risk derailing partnership development.[64] These differences may show up as:

- Misalignment about the goals of the partnership
- Lack of awareness regarding the best roles or functions to engage in partnership activities
- Incompatibility in the pace or process of decision-making
- Differences in foundational beliefs on how to best educate students to be prepared for work and life.[65]

Bureaucratic requirements, particularly in relation to reporting or other regulations regarding student-employer interactions, can get in the way of key partnership activities. The costs of providing training for high-demand roles can also be a barrier to alignment, discouraging institutions from offering some programs that would be of interest to employers. Other challenges can emerge when one or both partners lack sufficient resources, personnel, or even physical spaces to support partnership development.[66]

Strategies for Partnership Alignment

Establish a shared sense of value
Establishing a shared understanding of the value each partner offers the other is a critical precondition for alignment, and may require overcoming misconceptions regarding the capabilities and motivations of various stakeholders. If employers are more accustomed to engaging and recruiting students from four-year institutions, for example, they may struggle to recognize the talents of community college students.[67] In a recent survey, less than two-thirds of employers agreed or strongly agreed that community colleges are producing the graduates that their organizations need.[68] On the other hand, as one former CEO recounted, community colleges may be skeptical of employers' commitments and motivations when embarking on a new partnership.[69] Taking time to articulate and communicate a mutual value proposition at the start of an engagement can lead to deeper alignment on shared goals and strategies.

Develop leadership buy-in
Strong leadership and buy-in from institutional and employer entities also promote stronger and more sustained partnerships. More strategic and intensive alliances especially need the employers to "take ownership" at a senior level to share information and resources, build trust, and execute a longer term workforce development strategy.[70] College leadership is also critical for sustaining partnership activities, particularly by helping commit funds through

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64 Barriers & Opportunities for Building Higher Education–Employer Partnerships, (San Francisco: California Competes, July 2022).
65 Myers and Kellogg, "State Actor Orchestration for Achieving Workforce Development at Scale: Evidence from Four U.S. States."
66 Barriers & Opportunities for Building Higher Education–Employer Partnerships.
67 Barriers & Opportunities for Building Higher Education–Employer Partnerships.
68 Fuller and Raman, "The Partnership Imperative: Community Colleges, Employers, and America's Chronic Skills Gap."
69 Deanna Mulligan, How to Partner With Schools to Close the Skills Gap, (Stamford, CT: Chief Executive, 2020).
70 Randall Wilson, "A Resource Guide to Engaging Employers," (Boston: Jobs for the Future, 2015).

college foundations, supporting department leadership and coordination efforts, and hiring more staff.[71] Promising practices are being developed at some institutions to also ensure leadership and engagement across multiple levels of an organization. At one college observed in a multi-state study of college-employer partnerships, a two-tiered advisory committee was created — one for senior leadership and CEOs focused on strategic visioning for the partnership and one composed of operational staff working closely together to implement the partnership vision.[72]

Build industry knowledge

For institutions, positioning themselves as a valuable partner to employers often means developing ways to more nimbly respond to economic or workforce influences and becoming experts on local industry needs, mirroring the deep industry knowledge often provided by nonprofit sector training programs. Employers have expressed their preference for working with "industry-savvy" college staff, which entails demonstrating industry knowledge and taking a customer-centric approach to working with employers.[73] One practical step colleges can take to build their knowledge of employer needs and practices is attending meetings of employer associations or chambers of commerce.[74] For example, Northeast Wisconsin Technical College's president regularly attended a CEO consortium where he spent time learning about industry and employer needs by, as he said, "'absorbing the business language and understanding what employers care about in their own words.'"[75] Careful attention to language — such as avoiding higher education-specific terminology — can be a powerful way to convey understanding of industry practices.[76]

Engage in mutually supportive professional development

Colleges and employers each have a role to play in helping each other develop the relevant knowledge and expertise to make the partnership a success. For example, partnerships create the opportunity to build faculty capacity to teach industry-aligned courses, or build employer expertise in supporting student development.

1. **Curriculum design**

   Employers may work with faculty to design curriculum and support faculty learning and professional development, and institutions may look to employers to identify priority skills and competencies. One structured approach for employers and faculty to collaborate on curriculum is through the Business and Industry Leadership Team (BILT) model, developed in part at Collin College.[77,78] This brings together industry and business leaders to systematically identify the knowledge, skills, and abilities that are key to developing a strong workforce. Faculty review the recommendations and look for appropriate places in the curriculum where they can embed these skills.[79] Another approach, based on similar principles, is the Developing a Curriculum (DACUM) model, through which employer advisory committees use a storyboarding approach to explain a worker's tasks and relevant skills and competencies.[80]

2. **Instructional support**

   Employers may look for ways to engage with institutions as instructors or provide training to existing faculty, while colleges can look to hire faculty and leadership who have experience with industry.[81]

71 Scott, Kuehn, Eyster, Briggs, Durham, Spievack, Simon, and Barnow, "Implementation, Outcomes, and Impact Synthesis Report: Round 4 TAACCCT Third-Party Evaluations."
72 Rita T. Karam, Charles A. Goldman, and Monica Rico, "Career Services and College-Employer Partnership Practices in Community Colleges in California, Ohio, and Texas," (Santa Monica, CA: RAND Corporation, 2022).
73 Lauren Eyster, Molly Scott, and Theresa Anderson, "Employer Perspectives on Building Partnerships with Community Colleges: Insights for Local Leaders and Practitioners," Brief prepared for the U.S. Department of Labor, Chief Evaluation Office, (Rockville, MD: Abt Associates; and Washington, DC: The Urban Institute, 2020).
74 "A Look at Partnerships Between Employers and Community and Technical Colleges: Observations and Recommendations." (Waco, TX: Center for Occupational Research and Development, 2021).
75 Brittney Davidson, et al. "The Workforce Playbook: A Community College Guide To Delivering Excellent Career And Technical Education," (Washington, DC: The Aspen Institute, 2019).
76 Ruth McGillivray, et al. Employer Engagement Best Practices Toolkit: A Resource for Institutions of Higher Education to Establish Industry Partnerships. (Franklin, TN: Competency-Based Education Network, 2019).
77 "A Look at Partnerships Between Employers and Community and Technical Colleges: Observations and Recommendations."
78 "Collin College's BILT Model Receives National Innovative Program Award." Collin College News. last modified July 30, 2019.
79 H. L. Fox and A. Beheler, Strategies for Transformative Change: Business and Industry Leadership Teams, (Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign, 2014).
80 Employer Engagement Toolkit, (Waco, TX: Center for Occupational Research and Development, 2022).
81 Barriers & Opportunities for Building Higher Education–Employer Partnerships.

Community colleges are emerging as a potentially rich talent development pipeline for the artificial intelligence industry.[82] Major employers such as Amazon and Intel are collaborating with colleges to provide training tailored to AI workforce needs — a collaboration that involves training and professional development for faculty.[83] The employers prepared instructional content for students and support for instructors on integrating this content into curriculum. As new partnerships develop focused on future workforce needs, academic collaboration may increasingly involve faculty upskilling.[84]

Invest in relationship management

Strategic relationship management is a valuable tool for creating an aligned vision for the partnership, and for engaging in the partnership activities that put vision into action. With targeted and coordinated relationship management, partners can stay attuned to each other's needs and priorities and develop the right processes and protocols to move the partnership forward.[85] Successful relationship management between colleges and their employer partners requires dedicated personnel to shepherd the engagement, the participation of multiple roles within each organization, and the structures and incentives to maintain ongoing relationship building. While many accounts of partnership development focus on institutional activities, both institutions and employers have a valuable role to play in nurturing and sustaining relationships.

The following are key steps for partnership relationship management.

1. Identify a dedicated relationship owner

In the absence of a dedicated relationship function, relationship management can be an all-or-nothing proposition: outreach can be uncoordinated, coming from many different departments and functions at once, or it may suffer from lack of accountability and lapse altogether. Strong relationship management often starts with a single point of contact to act as a relationship "navigator" or "liaison."[86,87]

Community Colleges of Spokane and the Spokane Area Workforce Development Council jointly funded a workforce leadership role that, among other duties, engages with businesses to understand their needs and develop training solutions.[88]

The City University of New York developed a centralized Sector Innovation Team to serve as the "front door" for employer relationships, which entails engaging employers in advisory roles or other activities at the college and facilitating internships or other career preparation and exploration activities for students.[89]

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82 Diana Gehlhaus and Luke Koslosky, Training Tomorrow's AI Workforce: The Latent Potential of Community and Technical Colleges, (Washington, DC: Georgetown University Center for Security and Emerging Technology, April 2022).

83 Shalin Jyotishi, "Amazon Wants To Help Community Colleges, HBCUs Teach AI," Forbes, January 20, 2023.

84 Gehlhaus and Koslosky. Training Tomorrow's AI Workforce: The Latent Potential of Community and Technical Colleges.

85 Many partnerships benefit from engaging with an intermediary or other stakeholder with deep knowledge of both institutions and employers. In investigating workforce actors implementing Tennessee's Labor Education Alignment Program (LEAP) grant, Soliz et al. (2023) found that staff who could bridge postsecondary and workforce discussions from their organizations and institutions were critical to more cohesive cross-sector collaboration to meet education and workforce needs.# However, in this review and in our Employer and Community College Partnership Challenge, we are primarily focused on direct relationship building between institutions and employers. (Adela Soliz, Cara DeLoach, and Hidahis Mesa, "How do community and technical colleges build cross-sector collaborations?," The Journal of Higher Education, online first (2023): 23-24 .

86 Elizabeth Mann, "Connecting community colleges with employers: A toolkit for building successful partnerships," (Washington, DC: Brookings Institution, 2017).

87 Rita T. Karam, "How Community Colleges Can Establish Better Partnerships with Employers," The RAND Blog, last modified June 6, 2019.

88 "Powerhouse Partnerships: Community Colleges and Workforce Boards Working Together."

89 Joiselle Cunningham, Abby Jo Sigal, Heather Johnson, and Julia di Bonaventura, "Employer Partnerships that Drive Systems Change: Accelerating Change at The City University of New York," (New York: Here to Here; and Boston: Jobs for the Future. 2019).

2. Create incentives and accountability

Incorporating partnership development into each organization's strategic priorities creates an environment of accountability to enable and support partnership activities.[90] At a practical level, institutions that encourage faculty and staff to engage in this work should build the processes and infrastructure to make participation feasible. Using handbooks to standardize and provide guidelines for engagement can streamline relationship building for staff, and integrating partnership activities into core job functions can also boost partnership development.[91] Faculty could be incentivized to build relationships with employers, for instance, by including relationship development as a component of the promotion and review process.[92]

3. Engage multiple stakeholders

Building relationships with stakeholders from different departments and levels within the organization has many advantages, from strengthening buy-in for partnership initiatives to preventing relationships from floundering in case of turnover.[93] Ensuring the right mix of people are in the room — each with a clear task — bolsters effective collaborations.[94] On the employer side, this may include hiring managers and human resources staff in addition to executives,[95] while for institutions, stakeholders may include representatives from different departments and areas of administration.

Conduct tailored and timely outreach

As with all relationships, regular interactions with clear objectives and follow-through make employer and community college partnerships stronger. Establishing a regular pattern of outreach ensures that communication doesn't only happen when there is a problem to solve[96] or a request to make.[97] Employers participating in partnerships with community colleges have noted the importance of steady communication that builds over time[98] and continues even after the initial promotion, program development, or implementation activities are complete.[99]

EXAMPLE:

> A tailored outreach strategy can serve as the foundation for deeper engagement between the college and employer. College of Central Florida built an employer-facing website to promote its XCEL-IT program, making sure to include a way for employers to communicate directly with the college. Following through on this outreach enabled the college to grow its employer advisory boards, which in turn provided a means for employers to engage frequently with faculty, staff, and students through activities such as curriculum advising, work-based learning opportunities, and career exploration.[100]

Collaborate with data

Access to data that provide institutions and employers with an understanding of the supply and demand gaps in their local and regional economies is a valuable resource. Multiple data sources exist — and range from federal and state government projections, to local economic development organizations, to specialized vendors like Moody's and Lightcast — but investments in both data access and the capacity to analyze and develop insights from the data are needed. The intersection of institutions' interests in preparing their students for career success

90   Barriers & Opportunities for Building Higher Education–Employer Partnerships.
91   Shalin Jyotishi, "Colleges Must Improve Their Employer Partnerships. Here Is How," (Washington, DC: New America. 2022).
92   Barriers & Opportunities for Building Higher Education–Employer Partnerships.
93   Barriers & Opportunities for Building Higher Education–Employer Partnerships.
94   Adela Soliz, Cara DeLoach, and Hidahis Mesa, "How do Community and Technical Colleges Build Cross-Sector Collaborations?" *The Journal of Higher Education*, online first (2023): 24.
95   Shalin Jyotishi and Iris Palmer, "What Makes a Community College Excel at Workforce Development?" (Washington, DC: New America. 2021).
96   McGillivray, et al., Employer Engagement Best Practices Toolkit: A Resource for Institutions of Higher Education to Establish Industry Partnerships.
97   Employer Perspectives on Building Partnerships with Community Colleges: Insights for Local Leaders and Practitioners.
98   Employer Perspectives on Building Partnerships with Community Colleges: Insights for Local Leaders and Practitioners.
99   Scott, Eyster, Su, Blount, Trutko, Smith, and Gardiner. The Employer Perspectives Study: Insights on How to Build and Maintain Strong Employer-College Partnerships.
100 Caitlin Rose Dailey, et al., Engaging Employers in Community College Workforce Education Programs: Examples From the Field, (Washington, DC: U.S. Department of Education, National Center for Innovation in Career and Technical Education, 2017).

and employers' interests in ensuring they have a skilled workforce becomes visible through these data to inform collaborations and partnerships designed to benefit all three stakeholders—students, employers, and community colleges.

When institutions understand labor market needs, they can make a stronger case to employers regarding their value proposition.[101] Labor market data also can support colleges in tailored program development, ensuring they are investing resources in building capacity in a way that will benefit the local workforce and economy.[102] In addition to private third-party data sources such as Lightcast, colleges may look to workforce boards,[103] local and state governments,[104] or university economic research centers[105] as data sources, or develop their own data through employer surveys or focus groups.

Institutional and employment data are also critical to productive partnership collaboration, as tracking students' progress through education and career pathways can lead to operational improvements for both institutions and employers.[106] For workforce programs at community colleges, it is especially important to track outcomes across both credit and noncredit programs.[107] Yet institutions and employers often do not have any information on the outcomes that fall outside their direct purview (e.g., institutions may not have any employment data on program graduates, while employers may not have data on enrollment or other outcomes related to their talent pipeline development).[108] Colleges and employers have adopted a range of approaches to improving data collection and sharing, including developing internal capacity and partnering on measurement. Partners that are able to leverage shared data can find that it leads to improved processes and outcomes.

EXAMPLES:

Building institutional capacity: Lorain County Community College is improving access to and understanding of labor market information by training career advisors and other advisors in regional economic data. These student-facing staff then use this data to inform career conversations with students.[109]

Gathering data from employers: Baton Rouge Community College surveyed employers about their needs, while Middlesex College combined data sources such as state-level occupational demand, real-time jobs data, and consultations with employer partners.[110]

Partnering for employment outcomes data: Although employment data is difficult to track, some examples are emerging of employers supporting colleges in this effort. City University of New York, for instance, has partnered with a tech accelerator that is tracking metrics such as the number of interns who go on to permanent positions at the organization.[111] To support its information technology training programs, Amazon has worked on developing methods for tracking employment outcomes of graduates, such as by incentivizing self-reporting.[112]

101 Adam Atwell, et al., "Community College Responses to Align Career and Technical Education Programs With Changing Labor Markets," *New Directions for Community Colleges* 197 (2022): 48-49.
102 "A Look at Partnerships Between Employers and Community and Technical Colleges: Observations and Recommendations."
103 Center for Occupational Research and Development, Introduction to Stackable Credentials, (Washington, DC: U.S. Department of Education, Office of Career, Technical, and Adult Education, January 2021).
104 Karam, "How Community Colleges Can Establish Better Partnerships with Employers."
105 Jyotishi, "Colleges Must Improve Their Employer Partnerships. Here Is How."
106 Heidkamp and Hilliard. A Review of Community College-Employer Partnerships and Initiatives: Expanding Opportunities for Job Seekers with Disabilities.
107 Shalin Jyotishi, "How to Plan High-Quality, Non-Degree Workforce Programs at Community Colleges," (Washington, DC: New America, 2022).
108 Fuller and Raman. The Partnership Imperative: Community Colleges, Employers, and America's Chronic Skills Gap.
109 Elyse Ashburn, "Community College Rolls Out Local Econ 101 for Staff." Work Shift, last modified May 25, 2022.
110 Michelle Van Noy and Katherine Hughes, A Snapshot Of the Shifting Landscape Of Noncredit Community College Workforce Education, (Piscataway, NJ: Rutgers Education and Employment Research Center, February 2022).
111 Cunningham, Sigal, Johnson, and di Bonaventura. "Employer Partnerships that Drive Systems Change: Accelerating Change at The City University of New York."
112 Gehlhaus and Koslosky. Training Tomorrow's AI Workforce: The Latent Potential of Community and Technical Colleges.

Leveraging institutional data to influence employer decision-making: While data is a powerful tool for institutions to build their labor market and industry knowledge, institutions also provide employers with data to improve their programs and operations. Monroe Community College provided a food manufacturing employer moving into the region with data on local employment opportunities and training capabilities; based on the data, the employer increased their wages as a strategy to recruit talent.[113]

Table 2 further elaborates upon these core alignment processes most commonly utilized across institutions and employers and their potential impact on students.

TABLE 2. Mapping stakeholder roles and implications for building alignment

Alignment Processes	Institution Role	Employer Role	Impact on student experience
Establish a shared sense of value	Understand employers' motivations and level of commitment to partnership, communicate value of institution to employers	Recognize institutional and student strengths	Increased opportunities to engage with employers through activities tailored to student experiences and goals
Develop leadership buy-in	Ensure senior leaders are aware of and committed to partnership, share information and resources between partners and across staffing levels.		Programs are established and evolve over time, maintaining relevance while providing students with consistent educational and career opportunities.
Build industry knowledge	Attend employer convenings to discover needs and priority areas	Involve institutions in discussions around talent development and hiring needs	Access to training programs designed to meet a clear workforce need and provide occupational opportunities
Engage in mutually supportive professional development	Incorporate industry expertise into teaching and curricula	Benefit from DEI, mentorship, and other practices institutions use to enhance inclusivity and belonging	Supportive learning and career development experiences that are consistent in their commitment to student well-being across classroom and workplace settings
Invest in relationship management	Establish points of contact for relationship and build in staff incentives and accountability for relationship development		Students benefit from closer coordination between institution and employer
Conduct tailored and timely outreach	Respond quickly to partner asks and participate in regular meetings and touchpoints		Programs and opportunities can be adjusted as needs arise
Collaborate with data to improve alignment and outcomes	Invest in data access and develop capacity for data analysis, engage employers in data discussions	Share labor market data and information on hiring and skill needs with institutions, consult institutions on student outcomes and work together to make improvements to program design	Students have more confidence pursuing education with clear employment outcomes in mind

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[113] Davidson, et al., "The Workforce Playbook: A Community College Guide To Delivering Excellent Career And Technical Education."

Partnership Activities:
Practices that meet the needs of institutions, employers, and students

Overview of partnership activities

Prior literature provides a plethora of examples for the kinds of activities that are critical to — and in many cases, made possible by — community college and employer partnerships.[114,115] Typically, partnerships will involve one or some combination of at least five types of activities:[116,117,118,119]

- Designing or collaborating on curriculum
- Faculty professional development and teaching
- Academic or career support services
- Resource-sharing
- Ecosystem building or "systemic institutional alignment"[120]

Table 3 categorizes and describes many common partnership activities.These activities may happen on a continuum, adapting to accommodate, for example, different levels of employer involvement,[121] or different time frames for partnership engagement.[122]

TABLE 3. Types of activities often found in community college and employer partnerships

Foundational activities	• Labor market analysis • Regional skills goal-setting • Aligning colleges and employers on partnership goals and activities • Collaborating with data • Measuring outcomes for continual improvement
Promotional/leadership/ advocacy activities	• Employer promotion of education for career advancement • Industry recognition of college credentials and completion • College recognition of participants' career training and experience • Employer presence on advisory board/committee
Designing or collaborating on curriculum	• Employer-informed curriculum • Contextualized curriculum • Modular curriculum • Accelerated curriculum • Skills-based curriculum aligned to specific jobs
Enrollment/Transitions	• Credit articulation from secondary to higher education to work • Flexible scheduling • Simplified enrollment
Financial support	• Tuition assistance • Basic needs support
Guidance	• Career guidance • Academic advising • Student success coaching
Work-based learning	• Internships for certification programs • Employer-sponsored contract training • Training for incumbent workers • Apprenticeships
Faculty professional development and teaching	• Externships for faculty • Faculty curriculum design programs • Employer-led workshops
Enhancing learning environment	• Shared investment in facilities and equipment

Source: Adapted from Yarnall et al. (2016)

114 Heidkamp and Hilliard, "A Review of Community College-Employer Partnerships and Initiatives: Expanding Opportunities for Job Seekers with Disabilities."

115 Debra D. Bragg, Deborah Richie, and Catherine Kirby, "Scaling Transformative Change in America's Community Colleges Through TAACCCT," *New Directions for Community Colleges* 193 (2021): 134–139.

116 Belkis Suazo deCastro and Melinda Karp, "A Typology of Community College-Based Partnership Activities," (New York: Community College Research Center, 2008).

117 Soares, "Community College and Industry Partnerships."

118 Louise Yarnall, Elizabeth Tennant and Regie Stites, "A Framework for Evaluating Implementation of Community College Workforce Education Partnerships and Programs," *Community College Journal of Research and Practice* 40 no. 9 (2016): 752.

119 Soares, "Community College and Industry Partnerships."

120 Soares, "Community College and Industry Partnerships."

121 Wilson, "A Resource Guide to Engaging Employers."

122 Karam, Goldman, and Rico, "Career Services and College-Employer Partnership Practices in Community Colleges in California, Ohio, and Texas."

Many of these activities focus on student success and support. In the following section, we dive deeper into three of these practices that are particularly important for students to successfully pursue their education and career pathways: financial support, guidance, and work-based learning.

Student-Centered Partnership Activities: Critical to the success of all partnership stakeholders

Providing the most beneficial services and resources along the education-to-career pathway is critical to helping students achieve their academic and career goals. Employer and community college partnerships are well-positioned to engage in these student-centered practices. The desired outcomes of a partnership — such as increasing the number of students who persist through a multi-step career education pathway, or leveraging new financing options for training — depend upon having the right supports and learning experiences in place. At the same time, partnerships (and the resources and opportunities they provide) make it possible to improve upon, expand, or even introduce new supports and experiences to students.

Below, we provide evidence for the importance of financial resources, guidance, and work-based learning in the context of employer and community college partnerships and discuss specific practices and examples from different partnership models.

Financial Resources

Evidence: Why focus on financial resources?

Financial concerns can prevent students from enrolling in postsecondary education,[123] and once enrolled, can be a barrier to persistence. More than half of community college students receive some form of financial assistance,[124] and almost a third report experiencing food insecurity.[125] Accordingly, we see in a growing body of evidence that the integration of financial and other supports into education and career pathways can promote better persistence and completion outcomes.[126,127]

Practice

While many institutions and community organizations offer resources and programs to address students' financial needs, partnering with an employer can infuse existing efforts with much-needed funding and capacity. Financial assistance and essential needs support may be provided separately by the institution or employer, jointly working together, or in partnership with other service providers.[128] Alongside well-known examples[129] of large employers covering postsecondary tuition for their employees, we found more tailored models of institutions and employers working together to support students enrolled in specific career pathway programs.

EXAMPLES:

> Employers partnering with a community college to train incumbent workers may help cover tuition costs. Through a partnership with Columbus State Community College, Huntington Bank paid upfront tuition costs for students enrolled in an accelerated business program.[130] The Western Association of Food Chains and Central New Mexico Community College used a cost-sharing approach to finance tuition for incumbent employees enrolled in a Retail Management Certificate program. The employer paid 50 percent of tuition upfront, and was later refunded half of that by the college, while funding from the Walmart Foundation also covered a portion of the fees.[131]

[123] Andrew Hanson, "Back to Class: Will Pandemic-Disrupted Students Return to School?" (Indianapolis: Strada Education Network, May 2021).

[124] Fast Facts 2022, (Washington, DC: American Association of Community Colleges, 2022).

[125] "Mission Critical: The Role of Community Colleges in Meeting Students' Basic Needs." (Center for Community College Student Engagement, 2022).

[126] Hope Cotner, et al., Designing and Delivering Career Pathways at Community Colleges: A Practice Guide for Educators (WWC 2021007), (Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education, 2021).

[127] Susan Dynarski, Lindsay C. Page, and Judith Scott-Clayton, "College Costs, Financial Aid, and Student Decisions," (Cambridge, MA: National Bureau of Economic Research, July 2022).

[128] Financial support offered in conjunction with apprenticeships and other work-based learning experiences are discussed later in this report.

[129] Kylie Ora Lobell, "Why More Employers Are Leveraging Tuition Assistance to Attract and Retain Employees, (Alexandria, VA: Society for Human Resource Management, October 2021).

[130] Barry Darnell, Rebecca Klein-Collins and Kari Shafenberg, Building Adult Learner Leaders for Institutional Effectiveness (ALLIES), (Indianapolis: Council for Adult and Experiential Learning, 2022).

[131] McGillivray, et al. Employer Engagement Best Practices Toolkit: A Resource for Institutions of Higher Education to Establish Industry Partnerships.

Employer financing may be used to supplement other forms of aid or cover gaps in eligibility. Through a partnership with Rochester Community and Technical College to prepare students for health care careers, the Mayo Clinic provided scholarships to students experiencing challenges in accessing financial aid to avoid enrollment delays or disruption.[132]

Partnerships that incorporate essential needs support for students often do so in collaboration with community-based organizations or other intermediaries. The U.S. Economic Development Administration's Good Jobs Challenge,[133] which brings both an equity lens and a focus on partnerships to workforce development, offers many examples of institutions working with local organizations to provide wraparound services.

- Dallas College's initiative, focused on workforce development for the regional biotechnology industry, plans a multi-pronged approach to connecting students with services and supports. Their proposal notes that while the region offers extensive supports, many individuals are unaware of the services or how to access them.[134] The institution plans to integrate high-tech and high-touch approaches, using an online platform to help students identify services while also funding staff to work directly with students through a case management approach.

- Another Good Jobs Challenge awardee, Illinois Central College (awarded a grant focused on IT workforce development), plans to partner with organizations including Goodwill and the Urban League as well as fund dedicated staff to coordinate services for students.[135]

Guidance

Evidence: Why focus on guidance?

In addition to financial concerns, survey data from community college students point toward anxiety and stress as persistent challenges that may prevent successful program completion.[136] Before students even start a program, uncertainty about choosing an educational pathway can be a barrier to enrollment.[137] Models with strong evidence of success in community college settings incorporate guidance and advising alongside financial assistance and support for essential needs.[138]

Practice

Guidance and advising can be particularly consequential elements of community college and employer partnerships, given that partnership goals often depend upon students successfully navigating complex transitions between education and employment. Each partner can have an important role in providing this guidance at different stages of the education-to-career pathway, beginning with program recruitment and extending through promotion of career pathways and professional mentorship.[139] With the support of a coach or dedicated navigator, the entire education journey can be guided by career goals, with students identifying the training and programs that can help them achieve their employment aims.

132 Dailey, et al. Engaging Employers in Community College Workforce Education Programs: Examples From the Field.
133 Matthew Dembicki, "A Big Role in Good Jobs Challenge," Community College Daily, last modified August 3, 2022.
134 Grow the Biotech Workforce in North Texas to Meet Emerging Skill Needs via a Collaborative Partnership, Dallas College, Project Narrative for the U.S. Economic Development Administration's Good Jobs Challenge, (Washington, DC: U.S. Department of Commerce, U.S. Economic Development Administration, 2022).
135 Hired! IT Workforce Accelerator: Developing the Central Illinois Workforce through a Talent Pipeline Management, Illinois Central College, Project Narrative for the U.S. Economic Development Administration's Good Jobs Challenge, (Washington, DC: U.S. Department of Commerce, U.S. Economic Development Administration, 2022).
136 The Road Ahead for Community Colleges — Examining Enrollment, Completion, Purpose, and Value, (Indianapolis: Strada Education Network, January 2021).
137 Nichole Torpey-Saboe, Interested But Not Enrolled: Understanding and Serving Aspiring Adult Learners, (Indianapolis: Strada Education Network, September 2020).
138 Rachel Fulcher Dawson, Melissa S. Kearney, and James X. Sullivan, Why Expanded Student Supports Can Improve Community College Outcomes and Boost Skill Attainment, (Washington, DC: Brookings Institution, Brown Center Chalkboard, 2021).
139 Employer Engagement Toolkit.

> Employer involvement in recruitment may have a dual purpose, serving to build awareness of an industry or career pathway as well as engage students in relevant training. The American Center for Optics Manufacturing is taking this twofold approach, launching a promotional campaign to generate interest in careers in the field and connect potential students to industry-aligned programs at three community colleges.[140]

> Rochester Community and Technical College's partnership with the Mayo Clinic provided navigation support to students through the college and through an adult learning center in the local K-12 school district. Once students neared completion of the program and began preparing for employment, the Mayo Clinic stepped in to provide support in navigating the hiring process.[141]

> Pueblo Community College's CHAMP program to train students for advanced manufacturing careers included dedicated funding for a navigator employed by the college to help students select courses, explore interests, and find work-based learning and employment opportunities.[142]

Work-Based Learning

Evidence: Why focus on work-based learning?

Career outcomes are a primary motivation for enrolling in postsecondary education, and students who have the opportunity to connect their learning to career preparation experiences are more likely to say their education was worth the cost and helped them achieve their goals.[143] Participating in work-based learning experiences, such as internships and apprenticeships, can be a pivotal stepping stone in a successful transition from education to employment. Yet despite the known benefits of paid work-based learning experience for students' post-graduation outcomes, community college students may not have equitable access to these opportunities.

A recent survey found that less than half of community college students who participated in internships were paid or received college credit for their experiences, while almost three-quarters of students at four-year institutions were paid or received credit.[144] Despite this, community college students may experience greater benefits from work-based learning than their four-year peers. The same survey found that 86 percent of community college students found their work-based learning experiences to be valuable career preparation, compared with 62 percent of students at four-year institutions.[145]

Given that two-thirds of community college students are employed — with almost a third working full-time — the challenges of balancing work and learning can be a daily reality.[146] Building effective bridges between work and learning can create a more integrated experience for students in which work and learning are mutually reinforcing.

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140 The Future is Optics, (Rochester, NY: American Center for Optics Manufacturing, 2022).

141 Dailey, et al. Engaging Employers in Community College Workforce Education Programs: Examples From the Field.

142 Dailey, et al. Engaging Employers in Community College Workforce Education Programs: Examples From the Field.

143 Dave Clayton and Nichole Torpey-Saboe, "Student Outcomes Beyond Completion: National Findings From the 2021 Strada Alumni Survey," (Indianapolis: Strada Education Network, October 2021).

144 Melissa Ezarik, "Breaking Down Barriers to Internships," Inside Higher Ed, last modified October 4, 2022.

145 Ezarik, "Breaking Down Barriers to Internships."

146 Taylor Campbell and Jamie Wescott, RTI International, Percentage Distribution of Undergraduates, by Work Intensity While Enrolled, and Among Those Who Worked, the Average and Median Hours Worked Per Week, Control and Level of Institution, and Selected Student Characteristics: 2015–16, (Washington, DC: U.S. Department of Education, National Center for Education Statistics, 2019).

Practice

Employer and community college partnerships can be fertile ground for crafting work-based learning experiences that meet the needs of students, institutions, and employers. One study of employer and community college partnerships reported that providing internships or apprenticeships was the third-most common partnership activity, preceded only by the more light-lift activities of participating in career fairs or providing facilities tours.[147]

In the context of partnerships we reviewed, these experiences often took the form of apprenticeships (or apprenticeship-like programs), with students moving between classroom instruction and on-the-job training in an integrated program. In addition to their focus on career preparation, apprenticeships also have the effect of improving students' postsecondary experiences and outcomes. For example, a study of the Federation for Advanced Manufacturing Education (FAME) apprenticeship program with the Kentucky Community and Technical College System reported that program participants experienced strong education and career benefits, achieving higher graduation rates as well as higher earnings post-graduation compared with nonparticipants.[148]

While some of the most familiar apprenticeship models occur in manufacturing or other skilled trades, innovative approaches are emerging in technology or professional services fields. When offered through community colleges, these apprenticeship models create more equitable access to a range of career pathways, engage more individuals in postsecondary education, and help position the institution as a go-to resource when program graduates seek additional skills or training. As earn-and-learn models, they can be a more equitable approach to work-based learning than traditional internships, particularly unpaid internships.

EXAMPLES:

> Apprenticeships often serve as the entry point for a career pathway, but also can provide an upskilling opportunity for current employees. Salt Lake City College collaborated with Cummins Diesel to customize an apprenticeship program for Cummins employees.[149] The program was designed to accommodate employer needs by offering coursework in two-week bursts rather than extended over a semester.[150] This example demonstrates what connecting work and learning looks like when the focus is not on moving students from education into employment, but instead moving incumbent employees through educational opportunities while connected to the workforce.

> In some cases, apprenticeship programs that were originally designed to provide training in skilled trades have evolved to incorporate additional programs. Northrop Grumman's Apprentice School for shipbuilding in Virginia partners with local community colleges both to award college credit for shipbuilding coursework and to create pathways for additional education.[151] Some apprentices have been selected, for example, to also pursue an associate's degree in business or engineering at Tidewater Community College or Thomas Nelson Community College, paid by Northrop Grumman.[152]

147 "A Look at Partnerships Between Employers and Community and Technical Colleges: Observations and Recommendations."
148 Tamar Jacoby and Ron Haskins, Kentucky FAME: Fulfilling the Promise of Apprenticeship, (Washington, DC: Opportunity America; and Washington, DC: Brookings Institution, October 2020).
149 School of Technical & Professional Specialties: Diesel Systems Technology. (Salt Lake City, UT: Salt Lake Community College, 2017).
150 McGillivray, et al. Employer Engagement Best Practices Toolkit: A Resource for Institutions of Higher Education to Establish Industry Partnerships.
151 About the School, (Newport News, VA: The Apprentice School, 2022).
152 Soares, "Community College and Industry Partnerships."

> Mastercard has partnered with LaGuardia Community College to develop a cybersecurity apprenticeship, in which students complete a part-time apprenticeship with Mastercard after finishing a 10-week training course at the college.[153] Technology fields such as cybersecurity are offering opportunities for innovative apprenticeship models that fill growing workforce needs, while at the same time building more equitable pathways into emerging career fields.

> Apprenticeships for careers in insurance and other corporate fields are shifting the narrative around the industries typically associated with apprenticeship programs. The Chicago Apprenticeship Network offers a model in which local community colleges partner with businesses to provide apprenticeships in business services and other corporate roles.[154] Apprentices with Aon, for instance, work for Aon while they are pursuing their associate's degree; Aon pays apprentices and covers students' tuition and fees.[155]

Practices around financial resources, guidance, and work-based learning can be instrumental in students' ability to achieve both their education goals and desired career outcomes. In the context of community college and employer partnerships, where education and career pathways are closely integrated, both partners have a critical role to play in developing and delivering these practices. Table 4 describes how institutions and employers can collaborate in the areas of financial resources, guidance, and work-based learning to positively impact the student experience.

TABLE 4. Mapping stakeholder roles and implications for learner-centered practices

Practice	Institution Role	Employer Role	Impact on student experience
Financial resources	Identify student financial challenges for employers, connect students with resources	Engage in cost-sharing with institutions and provide for unmet needs	Removing financial barriers to enrollment and completion
Guidance	Provide academic and career guidance for students pursuing educational pathways and education-to-employment transitions	Support career development and provide opportunities for career exploration	Seamless support between education and the workforce and improved guidance through stackable or multi-step pathways
Work-based learning	Provide educational and training components of work-based learning experiences	Tailor on-the-job training to incorporate practical application of academic coursework	Work-based learning experiences that build upon classroom learning in supportive and student-focused work environments

153 Lois Elfman, "Apprenticeships Infuse STEM Workforce," Diverse Issues in Higher Education, last modified June 30, 2022.
154 Chicago Apprentice Network, 2022.
155 How the U.S. Apprenticeship Program Works, [London: Aon, 2021].

Conclusion:
Opportunities for Further Inquiry and Innovation

Building on examples of the types of partnership models, processes, and activities we reviewed, we propose what the next chapter of innovation in community college and employer engagement could look like. The areas of inquiry and innovation we identify reflect the quickly changing dynamics of education and work and the growing call from current and potential learners to focus on credentials that lead to good jobs and build their skills for future iterations of their careers.

Areas of Inquiry

As we reviewed partnership research and examples, we identified several areas where further inquiry may benefit the field.

How do partnerships support students?
The success of partnerships depends upon the success of students. Whether a partnership is designed to cultivate a new workforce pipeline or reskill an incumbent workforce, the activities and practices that support these goals must involve effective engagement, instruction, and support for students. Yet in our research, we often found the student perspective missing. For community colleges, and increasingly across the postsecondary education landscape, the student population comprises a range of ages and career stages.[156] At the same time, the "typical" college experience often includes a balancing act of family, work, and other responsibilities outside of education.[157] Understanding and honoring the plurality of student voice is critical to designing education and workforce systems that offer true pathways to opportunity. We seek to learn from programs and approaches that elevate the student as a key stakeholder in employer and community college partnerships. In doing this, we see an opportunity to build on Strada's long-standing research interest in measures of value and fulfillment among postsecondary students and alums[158] and the factors that contribute to effective career preparation.[159]

How do partnerships advance equitable pathways to opportunity for students?
We are especially interested in examining the experiences of students from populations that have historically been underrepresented in postsecondary education and skilled professions. In the course of our partnership research, we've noted several examples of partnerships designed to engage specific demographics in postsecondary programs or work-based learning experiences. As we work as a field to advance equity in education and career opportunity, it is imperative that we understand the experiences and outcomes of students within these populations and attune ourselves to the strategies and practices that best support their success and help them create a sense of belonging in their chosen pathways. Outcomes measurement is a key element of this research, particularly measuring employment outcomes for students enrolled in programs or pathways engaged in partnership work. We recognize the challenges of measuring program and post-completion outcomes, particularly for noncredit workforce learning,[160] and seek to understand the infrastructure and policies that can support outcomes data collection and analysis.

How can partnerships create the conditions for deep employer commitment and engagement?
In much of the literature on employer and community college partnerships, the flow of information and influence runs from employer to the institution. Employers bring their priorities and expertise to the institution, and the institution develops programs and offerings in line with those priorities.[161] We are interested in exploring a more reciprocal flow of knowledge and expertise, and curious about opportunities or models for institutions to support the employer's development and evolution.

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[156] Fast Facts 2022.
[157] Rachel Fishman, Perception vs. Reality: The Typical College Student, (Washington, DC: New America. 2017).
[158] Andrew Hanson, Success Beyond Completion: How Can We Best Measure Student Outcomes? (Indianapolis: Strada Education Network, July 2020).
[159] Elaine W. Leigh, "Understanding Undergraduates' Career Preparation Experiences," (Indianapolis: Strada Education Network, 2021).
[160] Jacoby, The Indispensable Institution: Taking the Measure of Community College Workforce Education.
[161] Karam, Goldman, and Rico, "Career Services and College-Employer Partnership Practices in Community Colleges in California, Ohio, and Texas."

Diversity, equity, and inclusion efforts may be an area in which employers may not have sufficient practices in place, particularly for supporting students from populations that have historically been underrepresented in certain industries (such as technology).[162] Black or Latino workers comprise less than a quarter of the nation's STEM workforce,[163] for example, and racial wage gaps persist throughout the workforce.[164] Working together as partners provides institutions and employers the opportunity to ensure that diverse student populations are supported throughout the education-to-work journey, including through equitable compensation and career advancement opportunities.[165] Another area in which employers also may benefit from further development is in providing mentorship for students. While mentorship is critical to successful internship experiences, staff and resource constraints may limit employers' mentorship capacity, and smaller employers in particular may lack staff time and resources to do so effectively.[166]

The RFP for our Employer and Community College Partnership Challenge emphasized the importance of shared accountability across institutions and employers, stating that "community colleges and employers will share ownership, responsibility, and accountability for the success of students and for meeting regional economic development needs." We seek to continue learning from our grantee cohort about potential areas and opportunities to build out a more reciprocal relationship between employers and institutions. If we examine partnerships from that perspective, what examples can we find of the ways in which employers adapt to the needs of institutions and students in support of the partnership, and what differences can we find among various industries and employer characteristics?

How do employers evaluate the outcomes of partnership efforts?

We've also identified areas where further research could deepen our understanding of the employer experience in partnerships, such as the organizational process and structures needed to engage meaningfully in partnership work, or a typology of employer commitments and activities and the contexts to which these activities and commitments are best suited. In addition, we are interested in learning more about how employers assess the outcomes of partnership work. A survey of 12 employers by the Center for Occupational Research and Development identified savings related to worker productivity and reduced turnover as areas in which they experienced the greatest returns from partnerships.[167] We would like to explore outcomes across industries and programs, with an eye toward further understanding the relationship between outcomes and specific partnership elements.

How do partnerships evolve over time, and what are effective practices for sustaining their long-term development?

Much of the partnership research we reviewed focuses on their early stages: how employers and institutions can engage in initial outreach; which are the elements that are involved in launch and implementation; and how funding will be structured over the initial years of the program. Many college-employer partnerships also may be too reliant on key individuals to establish informal relationships with industry partners, rather than work to institutionalize those connections.[168] As partnerships move past initial stages, we seek to understand the factors that are critical to their long-term development and evolution and how both entities can work toward institutionalizing partnership processes and activities. In particular, we are interested in exploring how funding structures change over time, how institutions and colleges sustain their relationship through staff or faculty turnover, and how partnerships adapt as the priorities and capabilities of organizations evolve. Furthermore, we wish to better understand how employers work together in these partnerships to potentially mitigate competition and uplift partnership goals.

[162] Lois Joy, Building Effective Technology Internships: What Community Colleges can do to Ensure That Technology Internships are Effective Learning and Talent Development Tools for Both Students and Employers, (Boston: Jobs for the Future, March 2022).

[163] Abigail Okrent and Amy Burke, "The STEM Labor Force of Today: Scientists, Engineers, and Skilled Technical Workers," (Alexandria, VA: National Science Foundation, National Center for Science and Engineering Statistics, 2021).

[164] Justin Dorazio, "7 Facts on Racial Equity and the Economic Recovery," (Washington, DC: Center for American Progress, 2022).

[165] Jyotishi and Palmer, "How to Deliver High-Quality, Non-Degree Workforce Community College Programs."

[166] Joy, Building Effective Technology Internships: What Community Colleges can do to Ensure that Technology Internships are Effective Learning and Talent Development Tools for Both Students and Employers.

[167] "A Look at Partnerships between Employers and Community and Technical Colleges: Observations and Recommendations."

[168] Karam, Goldman, and Rico, "Career Services and College-Employer Partnership Practices in Community Colleges in California, Ohio, and Texas."

How can partnership research generate data on education and employment outcomes?

In our discussion of the role of data in strengthening alignment between employers and community colleges, we noted that collaborating with data can play a key role in partnership development. As these partnerships continue, they present an opportunity to build a solid research foundation evaluating their impact on education and employment outcomes. Comparing the outcomes of students involved in partnership programs to those who are not will illuminate whether or not partnerships are associated with improved outcomes. Understanding whether employer and community college partnerships increase postsecondary education enrollment and completion, employee retention, and career advancement can drive continuous improvement of these partnerships and build a strong case for future policy and funding decisions.

Learning From Partnership Innovation

Our landscape review has illuminated for us the many ways in which community colleges and their employer partners are at the forefront of the priorities and emerging practices shaping postsecondary education today: aligning educational programs with labor market opportunities, creating more seamless pathways from education to employment, and advancing equitable pathways to opportunity across the learn-and-work journey. In navigating through the past decade-plus of community college partnership development, we hope we not only have shone a light on the structures and practices that have shaped these partnerships, but also presented structures and practices as a model to other institutions that are evolving their approach to fostering workforce connections.

The institutions and employers awarded grants through Strada's Employer and Community College Partnership Challenge exemplify the innovative, collaborative mindset so critical to partnership success. As the two-year grant period progresses, institutions and employers will come together in a Community of Practice to share their experiences, celebrate milestones, and work together to develop strategies for overcoming challenges. We look forward to learning alongside these institution and employer partnerships and hope to explore many of these areas of inquiry through our ongoing research agenda. When institutions and employers come together as peers working in pursuit of shared goals, their combined resources, capabilities, and expertise open new doors to prosperity for individuals and communities.

Acknowledgements

Appendix

Methodology

To organize our review, we conducted database searches (EBSCOHost, Google Scholar, JSTOR, and others) for peer-reviewed articles within the past 10 years using combined search terms such as "community college," "postsecondary," or "college" with "employer partner," "workforce partner," and other similar iterations. We reviewed abstracts for topic relevance and organized articles by general topics and themes. We also hand searched reports from national think tanks, foundations, and intermediary groups, as well as news articles related to education and workforce. At times, we also utilized reference lists or examples within these reports and articles, as well as Google searches using different keywords to establish a baseline set of articles and reports focused on community college and employer partnerships specifically or other similarly structured sectoral partnerships, or college partnership toolkits. Our searches generated 153 peer-reviewed publications, reports/briefs, or news articles that we synthesized in this review.

Source Type	Count
Peer-reviewed journal article or book chapter	33
Policy and think tank reports or briefs	58
News articles or blog posts	46
Other	16
TOTAL	153

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