Improving Employment Outcomes Through Continuing Education

THE PROJECT ON
WORKFORCE

IMPROVING EMPLOYMENT OUTCOMES THROUGH CONTINUING EDUCATION

A Framework for Evaluating Programmatic Areas and Insights to Produce Meaningful Job Outcomes

SUMMER FELLOWSHIP SERIES

Contents

Executive Summary

The Challenge

The "college wage premium" is at its highest in the last 30 years: in 2021, college graduates earned an average salary of $52,000 per year, whereas those with high school diplomas earned an average salary of only $30,000 per year.[1] But this "premium" is not distributed equitably: studies show that college graduates' economic payoff varies based on students' type of degree and area of study in addition to important demographic factors, such as race and gender. The cost of postsecondary education is also at its highest,[2] with national student loan debt surpassing $1.7 trillion,[3] sparking debate about the cost-benefit of post-secondary education and the equitability of socioeconomic outcomes.

In response to these circumstances, some institutions have placed greater emphasis on employment and economic outcomes to meaningfully improve the lives and circumstances of their students. In particular, continuing education programs aim to provide more accessible education opportunities (shorter time commitments and less costly options) that measurably improve students' economic outcomes. How might an outcomes-focused institution offering continuing education programs evaluate and prioritize programmatic areas to offer with their own cost-benefit analysis?

The Work: A Proposed Framework

Through our work advising a technical college in Massachusetts in evaluating 30+ different programmatic areas for continued education, we developed a five-dimension framework to assess and prioritize potential job pathways and upskilling offerings. We then combined the insights from industry research and interviews with industry experts, potential strategic partners including key employers, and students to provide recommendations on which programs would be most effective at delivering better employment and economic outcomes.

In this report, we BWe hope that these frameworks and insights can contribute to ongoing efforts in higher education and community-serving education institutions to deliver inclusive, equitable, and compelling outcomes for all students.

Background and Context

Relationship between Education and Employment

Better job and career outcomes remain one of the top motivating factors for students who choose to pursue higher education in the United States. [4] Meanwhile, the workforce development landscape is wrought with its own challenges: employers are often isolated from each other and from academic institutions that can help them develop talent pipelines. As industries expand and employers face labor shortage challenges across hiring and retention, some employers are deprioritizing requirements related to academic credentials and are moving towards skills-based hiring.[5] For academic institutions, this implies a need and opportunity to update their curriculum towards an industry-informed and skills-based education system. A key implication is that skills training across technologies will increase students' appeal to employers, help accelerate students' careers, and increase students' resilience in the face of future worker displacement from technology shifts.

Figure 1: Importance of Career Outcomes in Pursuing Higher Education
Source: Strada-Gallup Education Consumer Survey

In a nationally representative survey of 350 adults about their educational experiences and perspectives, 58% of respondents cited work outcomes ("good job and career") as the main reason they choose higher education.

Main Reason for Choosing Level of Education

Good job or career	**58%**
Learning and knowledge	**23%**
Family or social expectations	**12%**
Access/Affordability	**6%**
Other	**2%**

Opportunities for Community and Technical Colleges

Challenges in the workforce development landscape coupled with rising costs of higher education are contributing to fewer people going to college and to more people seeking better employment outcomes with non-degree programs which they consider "shorter, less expensive, and more direct-to-career pathways."[6] The National Student Clearinghouse Research Center 2023 report discussed a shift in the types of credentials that undergraduate students are pursuing: year-over-year enrollments in bachelor's degree programs decreased by 1.4%, while community college enrollment increased by 0.5% and enrollment in other credential programs increased by 4.8%.[7]

In this landscape, community-serving colleges serve as critical connectors between employers and pipelines of potential employees and as facilitators to promote equitable economic outcomes.[8] Several opportunities exist for community and technical colleges that focus on connecting students with local opportunities for economic mobility. One focal challenge is including underserved communities in opportunities associated with historic infrastructure spending (e.g., IRA, BIL, and CHIP bills), labor supply shifts and shortages, and labor demand surges.

Evaluation Criteria: A Five-Dimension Framework

We developed the following criteria to help program managers or heads of academic departments at community or technical colleges to evaluate and prioritize specific potential programs for pilot or release in the next 6-18 months. These criteria were developed based on input from our partner organization on institutional goals, core strengths, constraints, and student outcomes. These criteria are unweighted to encourage discussion among stakeholders with different perspectives on the tradeoffs between and relevance of the various criteria.

Figure 2: A Framework for Evaluating Continuing Education Initiatives

(A) Alignment with institutional goals and mission	Assess the potential program's alignment with institution expansion/growth areas and strategic goals (e.g., clean tech) and service to the institution's local target population.
(B) Job and career quality	Assess the intensity and expected duration of local employer demand for roles related to program completion – including any risks (e.g., displacement) to this demand – as well as the level of

	measurable economic advancement available to learners after program completion (e.g., wage growth and lateral or upward job promotions).
(C) Financial viability and sustainability	Assess the cost to pilot the program – including whether potential supplemental funding sources exist from the public (e.g., grants) or private (e.g., employer HR, L&D budgets) sectors – as well as the quality of demand signals for the program. Demand signals include, for example, the existence and proximity of competing programs, whether employer partners or potential partners have been identified.
(D) Alignment with institutional strengths	Assess the extent to which the potential program leverages existing faculty, materials, or other resources, as well as the program's complementarity or fit with existing programming/curricula offered by the institution.
(E) Relevance as job pathway and/or upskilling program design	Assess the potential program's fit as an upskilling program or job pathway program. We define an upskilling program as a course or series of courses that would allow someone working in an adjacent role to gain skills that allow lateral or upward career progression into a higher paying role. We define a job pathway as a multi-module or multi-course design that would allow someone who does not work in an adjacent role (or even in the same field) to occupy a given role.

Research Methodology & Scope

To evaluate each program, we conducted quantitative and qualitative research and assessments of competing programs.

- **Qualitative research** included: (1) broad scope analysis of industry growth and trends, job displacement risks; (2) interviews with proposed program area-adjacent faculty, industry experts, current employers, alumni working in the program area; (3) and granular analysis/assessment of risks raised by interviewees. We completed 22 interviews covering industry experts and potential employers, faculty members, and recent graduates.

- **Quantitative research** included: analysis of job posting data from sources such as Lightcast and Indeed, covering the Massachusetts region and where more granular data was available, focusing on the greater Boston area.

- **Competing program analysis** frequently involved outreach to program managers to assess (1) student outcomes relative to program goals, (2) assessments of employer demand and/or involvement of/with employers in developing programming, (3) assessments of student demand, and (4) specific components of curricula.

Note: Our analyses largely focused on the Boston and Massachusetts regions but the key insights presented below are, we believe, generalizable and more broadly applicable.

Case Study: Job Pathways for Solar Technician Roles

Context. At the request of our partner organization, we evaluated a potential job pathway program that would allow people previously unaffiliated with adjacent roles (or the solar industry) to enter positions as solar technicians. Solar technicians perform a range of tasks including installation, operation and maintenance (O&M), and replacement of solar energy systems. This example illustrates an educational institution's tradeoff between filling urgent employer demand and ensuring high quality outcomes for students. Though this potential offering showed strong alignment with multiple dimensions of our evaluation framework, our research unearthed risks related to the job and career quality criteria.

Areas of alignment. As mentioned, this potential offering fulfilled multiple dimensions of our framework, aligning well with our partner organization's institutional goals and mission (A), leveraging existing resources and programming (D), and fitting well with a job pathway program design (E). We also found programs at similar institutions that sought to train learners to become solar installer technicians, signaling potential viability of the program (C).

Mixed demand and job quality signals. In addition to these areas of alignment, we found evidence of mixed signals of employer demand and job quality. Demand for solar technician roles, around the country and in the Boston area, has grown rapidly in response to increasing demand for residential and commercial solar projects. This demand trajectory will likely sustain: in order to reach its 2050 climate goal, Massachusetts needs to install 27 to 34 gigawatts of solar–substantially more than the state's 4.2 GW currently installed.[9]

According to data from Lightcast, projected job growth of solar installer jobs is expected to top 60% in the Boston area. Because properly maintained solar panels have lifespans of 25 years or more,[10] solar O&M jobs – which can be separate from installer roles for regulatory reasons – are growing too. These roles appear promising targets for a job pathway program offering.

However, other findings provided mixed signals for worker opportunity. Recent job posting data indicated a recent decrease in the wages advertised in job postings. According to Lightcast, the advertised wages of solar installer technician jobs had stagnated and slightly decreased between June 2022 and June 2023 – whether this represents a fluctuation or a trend remains to be seen. Additionally, multiple data sources suggested cooling demand fluctuation among local employers. Lightcast data also indicated a recent slowing in job postings between June 2022 and June 2023, and, according to MassCEC, the number of solar jobs in Massachusetts shrunk by 4.5% between 2017 and 2022.[11]

Most importantly, other dimensions of job quality were concerning. Solar installation work is known for its low entry-level wages despite challenging working conditions, including exposure to heights, high voltage systems, and the elements.[12] Numerous accounts also exist of poor worker treatment, including safety and health issues, discrimination and bullying, and withheld or unpaid wages.[13] Though promotions and wage increases can be rapid for a worker who stays within the same company, our interviews produced anecdotal evidence that job turnover of these technician roles was quite high.

Final recommendation. Though the long-term employer demand signals for solar technicians are overwhelmingly strong, we concluded that worker treatment and compensation have not yet matured to warrant unreservedly recommending a job pathway program for these roles. In particular, our assessment found that the average solar technician role in the Boston area might not yet meet the job quality standards needed to provide workers with opportunities for economic mobility. We recommended that if this job pathway is pursued, potential employers be carefully vetted. Furthermore, solar technicians might themselves be a potential new student base for continuing education programming in the future.

Figure 3: Example Output of Evaluation Framework

Below is a sample output of evaluating the solar technician role as described in the case study against multiple potential continuing education program initiatives according to the five-dimension evaluation criteria.

Program Area	Overall	Mission Alignment		Job quality		Viability		Draws on strengths		Relevance	
		Part of priority areas	Serves target pop.	Strong job demand	Economic advance-ment	Demand signals	Cost/ funding	Builds on existing resources	Complements existing programs	Job pathways	Upskilling
Program 1	HIGH										
Program 2	HIGH										
Program 3	MEDIUM										
Program 4	MEDIUM										
Solar Technician	LOW										
Program 6	LOW										

Legend

HIGH: high potential and alignment
MEDIUM: some potential validated
LOW: low potential and/or some risks identified
N/A - not confirmed yet, more research needed

Click to enlarge.

Key Insights and Recommendations

Through our research, interviews, and analysis, we developed the following recommendations for leaders at community-serving educational institutions in assessing potential offerings for continuing education.

Partnerships with employers, and especially groups of employers, maximize the probability of favorable job placements for students after program completion. Students will benefit most from programs that provide students with (1) skills corresponding with employer and industry needs and (2)

opportunities to connect with potential employers. Further, programs that incorporate paid "externships" for students to work for employers directly can help learners subsidize any costs of training and facilitate relationship-building between students and potential employers.

These employer collaborations should extend to working with and building partnerships with unions, which play vital roles in certain industries, especially industries that furnish jobs in the clean tech, efficient buildings, and clean energy spaces. Institutions are likely to improve student welfare and employment outcomes by connecting students with unions.

Rapid industry growth can correlate with job quality and economic opportunities, but high growth can also signal job quality concerns and risks. Program managers should explicitly ask employers and/or industry associations about (1) work environment inclusivity and worker protections, (2) worker turnover and retention trends (and possible drivers of any issues), (3) industry maturity regarding certification and credentialing, and (4) worker displacement risks (e.g., emerging tech, industry evolution). Given the sensitivity of these topics and the varied interests of market participants, program managers should speak with stakeholders from multiple vantage points in the employer ecosystem (e.g., employers, unions, industry groups). However, the credential requirements (e.g., credential inflation vs. deflation) and employers' approaches to worker pay, treatment, and advancement opportunities for a given role are likely to be specific to each employer.

Program managers should carefully evaluate the tradeoffs of filling urgent workforce needs of local employers versus ensuring favorable student employment outcomes after program completion. A primarily short-term view that prioritizes local employer workforce needs (and funding opportunities to offer free programming for learners) can come at the expense of students and workers: this can create pockets of displaced workers after the urgent employer needs dissipate (often these correspond to temporary industry trends, or "booms," with low job quality in terms of pay and worker protection, e.g., solar installers). However, a solely long-term view can fail to serve both students and employers, missing opportunities to connect students with opportunities to fill employers' workforce needs. Program managers can balance these short- and long-term perspectives by aiming to fill workforce needs that employers expect to last five or more years.

Collaboration amongst community and technical colleges increases the chance of favorable employment outcomes for students. Collaboration amongst higher-education institutions working towards similar goals in workforce development can lead to favorable outcomes through initiatives such as knowledge-sharing practices and coalition-building with employer groups and local policy makers. Furthermore, given the varying workforce needs, approaching cross-institution collaborations with an abundance mindset can lead to strategies that ensure that each institution is specialized according to their core strengths and that collectively, they are more efficiently addressing the needs of students and employers.

Next Steps

The research and findings presented in this paper prioritized validating and understanding trends and demands from the employer perspective. We believe that greater understanding of student and worker needs would further enrich these findings.

1. **Expand research to delve deeper into perspectives from current students and recent alumni.** Institutions can glean valuable information on employer needs, skill gaps, and potential new programs from alumni. Given widespread and evolving workforce development needs, institutions may find that alumni can become repeat customers, especially of upskilling continuing education and workforce development programs.

2. **Lean into peer collaboration and explore areas for collaboration and knowledge-sharing.** Start with those in the same sector but different regions, which may result in an easier starting conversation.

3. **Explore the problem from the workers-needs-first perspective.** Expand research to focus on understanding trends, root causes, and sectors experiencing high-worker displacement. Switching problem-solving perspective from employer-needs first to worker-needs first may lead to other interesting programmatic ideas.

About the Authors

Kathryn Grice was a 2023 Summer Fellow at the Project on Workforce at the Malcolm Wiener Center for Social Policy at the Harvard Kennedy School. Kathryn is a graduate candidate of the Master in Public Policy at the Harvard Kennedy School of Government.

Yeti Khim was a 2023 Summer Fellow at the Project on Workforce at the Malcolm Wiener Center for Social Policy at the Harvard Kennedy School. Yeti is a dual-degree graduate candidate of the Harvard Kennedy School of Government and MIT Sloan School of Management.

About the Project on Workforce at Harvard

The Project on Workforce is an interdisciplinary, collaborative project between the Harvard Kennedy School's Malcolm Wiener Center for Social Policy, the Harvard Business School Managing the Future of Work Project, and the Harvard Graduate School of Education. The Project produces and catalyzes basic and applied research at the intersection of education and labor markets for leaders in business, education, and policy. The Project's research aims to help shape a postsecondary system of the future that creates more and better pathways to economic mobility and forges smoother transitions between education and careers. Learn more at www.pw.hks.harvard.edu/our-work.

Endnotes

[1] Geary, Chris. "College Pays Off. But by How Much Depends on Race, Gender, and Type of Degree." New America, March 1, 2022. https://www.newamerica.org/education-policy/edcentral/college-pays-off/.

[2] National Center for Education Statistics. "Average Undergraduate Tuition, Fees, Room, and Board Rates Charged for Full-Time Students in Degree-Granting Postsecondary Institutions, by Level and Control of Institution: Selected Years, 1963-64 through 2020-21," n.d. https://nces.ed.gov/programs/digest/d21/tables/dt21_330.10.asp.

[3] Hanson, Melanie. "Student Loan Debt Statistics [2023]: Average + Total Debt." Education Data Initiative, Updated July 17, 2023. https://educationdata.org/student-loan-debt-statistics.

[4] Gallup, Inc. "Why Higher Ed?" Gallup.com, January 2018. https://news.gallup.com/reports/226457/why-higher-ed.aspx.

[5] Castrillon, Caroline. "Why Skills-Based Hiring Is On The Rise." Forbes, February 12, 2023. https://www.forbes.com/sites/carolinecastrillon/2023/02/12/why-skills-based-hiring-is-on-the-rise/?sh=2c2aac7b24a9.

[6] Lopez, Ally. "The Future of Higher Education: Gen Z Sees Opportunity beyond the Four-Year Degree." Viv Higher Education, March 31, 2023. https://vivhied.com/the-future-of-higher-education-gen-z-drawn-to-highest-paying-jobs-without-a-degree-sees-opportunity-in-trade-schools/.

[7] National Student Clearinghouse Research Center. "Current Term Enrollment Estimates," May 23, 2023. https://nscresearchcenter.org/current-term-enrollment-estimates/.

[8] Schwartz, Robert B., and Rachel Lipson. America's Hidden Economic Engines: How Community Colleges Can Drive Shared Prosperity. Harvard Education Press, 2023. https://www.pw.hks.harvard.edu/post/america-s-hidden-economic-engines-how-community-colleges-can-drive-shared-prosperity.

[9] Synapse Energy Economics. "Massachusetts Technical Potential of Solar." Mass.gov, July 2023. https://www.mass.gov/doc/technical-potential-of-solar-in-massachusetts-report/download. Solar Energy Industrial Association (SEIA), "Massachusetts Solar, 2023," n.d.

[10] Crail, Chauncey and McCrants, Cassidy. "Plan on 25 to 30 Years." Consumer Affairs, June 16, 2023. https://www.consumeraffairs.com/solar-energy/how-long-do-solar-panels-last.html.

[11] BW Research Partnership for MassCEC. Powering the Future: A Massachusetts Clean Energy Workforce Needs Assessment, July 2023. https://www.masscec.com/sites/default/files/documents/Powering%20the%20Future_A%20Massachusetts%20Clean%20Energy%20Workforce%20Needs%20Assessment_Final.pdf.

[12] United States Department of Labor. "Green Job Hazards - Solar Energy | Occupational Safety and Health Administration," n.d. https://www.osha.gov/green-jobs/solar.

[13] Gurley, Lauren Kaori. "Shifting America to Solar Power Is a Grueling, Low-Paid Job." Vice, June 27, 2022. https://www.vice.com/en/article/z34eyx/shifting-america-to-solar-power-is-a-grueling-low-paid-job. Goodheart, Jessica. "How Solar Panel Companies' Explosive Growth Leaves Workers behind." Slate Magazine, April 13, 2017. https://slate.com/business/2017/04/solar-panel-companies-explosive-growth-is-leaving-workers-behind.html.