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Cultivating Healthy Workforce Ecosystems

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CULTIVATING THE WORKFORCE ECOSYSTEM

By now the training and education challenges facing workforce development in the United States education system are well-known. An online search for the term *skills gap* produces hundreds of thousands of results, including numerous articles from mainstream news outlets such as *Forbes*, *Bloomberg*, and the *Boston Globe*. The argument that U.S. workers are failing to keep pace with increasing skill demands continues to find support in periodic opinion polls of employers. As the total number of non-farm job openings reached a record high in 2017 (U.S. Bureau of Labor Statistics 2017), a survey of National Federation of Independent Business members found that 46 percent of employers reported having few or no qualified applicants for some open positions (Dunkelberg and Wade 2017).

Although some studies have questioned the extent of the “skills gap” and its role in preventing hiring (Abraham 2015; Cappelli 2015), what is clear is that our modern knowledge-based economy is being increasingly defined by rapidly changing demand for more advanced skills and postsecondary education. One analysis by the Pew Research Center found that the number of workers in occupations requiring average to above-average education, training, and experience increased by 68 percent between 1980 and 2015 (Pew Research Center 2016). Similarly, the Center for Education and the Workforce at Georgetown University found that 99 percent of the new jobs created in the post-Recession recovery required at least some postsecondary education (Carnevale, Jayasundera, and Gulish 2016). Just as workers must now be able to adapt to constantly shifting changes in demand for skills

and education, our workforce systems must become more flexible and responsive in providing the ongoing training and reskilling they will need to respond to these changes.

However, our existing workforce system is often described by workforce professionals as a “patchwork quilt of programs,” developed piecemeal from industry to industry and region to region and ill equipped to fully address these dynamic and rapidly shifting skill needs. Instead, the best models to address these challenges may be those that “spread the risk” of investing in new and innovative solutions across various stakeholders through collaborative systems building (Good and Strong 2015). In other words, the scale and complexity of the challenges we face in growing the workforce of the future requires the development of forward-thinking, collaborative systems focused on skill development aligned with industry and employer needs.

For over 40 years, the Council for Adult and Experiential Learning (CAEL) has partnered with employers, industry associations, economic development organizations, chambers of commerce, government agencies, and a wide array of other partners to better understand how to effectively link learning and work for greater economic vitality and prosperity. Through our consulting work in communities from California to Maine, we have come to understand effective workforce development efforts in terms of an ecosystem. A healthy *natural* ecosystem is one in which multiple interrelated and mutually dependent phenomena are constantly adjusting to changes elsewhere in the system to maintain balance. Correspondingly, a healthy *workforce* ecosystem is one in which a range of stakeholders understand, and are positioned to act upon, the interconnected and interdependent factors that ensure that education and training assets are well aligned with, and responsive to, shifting workforce demand for skills and learning. A well-aligned workforce ecosystem is one in which a wide range of regional stakeholders—K–12 systems, 2- and 4-year colleges and universities, employers, economic developers, workforce boards, state and local agencies, and many others—all play their part in understanding, revealing, and meeting the talent needs of the regional economy and work together to address complex issues that cannot be solved individually.

This chapter identifies and defines the various components and activities CAEL sees as necessary for building a healthy and well-aligned workforce ecosystem, one that addresses the challenges fac-

ing workers seeking meaningful and gainful employment, as well as employers and industries seeking qualified and productive employees. It also shares examples from our own work developing regionally implementable workforce ecosystem strategies to highlight the ways in which communities across the nation are coming together to create targeted solutions to their most pressing workforce needs.

UNDERSTANDING THE ECONOMIC LANDSCAPE

Developing an effective and well-aligned workforce ecosystem requires an understanding of the current and evolving needs of local employers and industries. Where are jobs being created that need to be filled (i.e., which industries or sectors are growing)? Are there enough workers with the necessary skills (whether developed through formal education or on-the-job learning) to fill these jobs? What additional skills will workers need to fill them? Do these jobs pay well and provide opportunities for career growth and advancement? Will the same industries that are growing now continue to grow 10 or 15 years into the future?

Answering these questions requires access to a wealth of quality labor market information (LMI). This information can come from traditional LMI sources such as Bureau of Labor Statistics data and growth projections, as well as newer sources such as real-time job-posting data. In addition to quantitative measures of job and wage growth, however, we have found qualitative information to be just as valuable in understanding local and regional workforce landscapes. Focus groups and surveys of employers, workers, and education partners can often reveal hidden trends and insights, particularly when used to validate or reflect on quantitative analysis.

Beyond this raw data, effective workforce systems must also have the capacity to synthesize quantitative and qualitative LMI, interpret short- and long-term trends, and identify which high-growth industries and occupations to target development efforts around. This process is also cyclical—jobs and skills needs constantly evolve, and workforce systems need to engage in an ongoing process of gathering, validating, and interpreting data from a wide array of sources. Doing so creates

a reservoir of actionable workforce intelligence that stakeholders can draw on to inform alignment across the workforce system.

This kind of holistic and comprehensive LMI approach was employed by the Allegheny Conference on Community Development to identify the challenges and opportunities facing the workforce of the Pittsburgh region over the coming decade. In addition to drawing on traditional labor market data, CAEL partnered with Burning Glass Technologies to gather relevant job-postings data and conducted interviews and focus groups with more than 130 CEOs and human resource directors from 85 regional employers, as well as local leaders in K–12 and postsecondary education. The results of this analysis, as well as a methodology for gathering actionable workforce intelligence, was outlined in a May 2016 report (*Inflection Point: Supply, Demand and the Future of Work in the Pittsburgh Region*)¹ that will be used to focus and guide future workforce development efforts in the region.

Employ Milwaukee, a regional Workforce Investment Board (WIB) in Wisconsin, used a similar approach in developing a more effective regional/countywide workforce intelligence system. The goal of this work was not only to assess the quality and comprehensiveness of the WIB's own LMI, but to develop strategies of regional collaboration around its shared collection and use. The result was a detailed report and set of recommendations for improvement, including the establishment of a formalized shared data repository that draws on industry advisory boards as a source of ongoing employer information and publishes regular workforce intelligence reports. This dynamic databank of quantitative and qualitative LMI will provide workforce stakeholders across the Milwaukee region with a shared understanding of the region's shifting labor needs as they develop collaborative programs and initiatives to meet those changes head-on.

LOCATING AND DEVELOPING VALUABLE EDUCATION AND TRAINING CREDENTIALS

Understanding labor demand only deals with half of the healthy workforce equation—it is equally important to understand the unique education and training resources available locally or regionally. What

postsecondary or vocational training institutions exist and what sorts of programs and credentials do they offer? Are these programs geared toward local needs; if not, which needs aren't being met? Are there unique programs or resources that aren't widely available in nearby regions (or even nationally)? Mapping available education and training resources is important not only for meeting local or regional demand, but also for attracting new businesses and industries to a community or region. Unique resources not only sustain economic vitality, they encourage further growth.

Understanding the landscape of local education and training offerings was the primary charge of a group in Kansas City known as GradForceKC, one of 75 local partnerships that participated in the Lumina Foundation's Community Partnerships for Attainment (CPA) initiative. The effort involved conducting an in-depth inventory of all the postsecondary credentials in the region that support skill development in targeted growth industries (previously identified through an LMI analysis conducted by one of GradForceKC's public-sector partners). The inventory identified potential gaps where critical industry skills were not being offered by existing programs by analyzing existing programs and credentials at 41 local postsecondary institutions—including public and private universities/colleges as well as vocational/career training programs. This initial work also established a standard methodology for the education inventory process that has allowed Kansas City partners (GradForceKS as well as college and university partners) to update the inventory regularly to reflect changing offerings and industry needs.²

To accurately identify potential gaps, however, an inventory of these types of resources must also address the quality or relevance of the programs and credentials being offered. Are the education and training credentials being offered recognized and valued by industry employers? Is the training and education being offered addressing skills (both soft and technical) that are in demand by employers? If the answer to these questions is no, the inventory should identify which skills are not being offered and whether a new program is necessary to develop them or existing programs should be revised to fill potential gaps.

For example, in Nashville (also a member of the Lumina CPA initiative), a similar regional inventory was conducted of education assets related to two growing industries identified by the Nashville Regional Chamber of Commerce (advanced manufacturing and information tech-

nology). The inventory was then tied back to in-demand occupations in each industry. By cross-walking individual education/training programs and credentials to specific occupations based on shared skills and employer-identified educational expectations for those occupations, training gaps or skill shortages could be more directly identified.

MAPPING PATHS FOR WORKERS AND JOBSEEKERS

To this point, our understanding of the talent landscape—which jobs and industries are in demand, the skills they require, and the education and training resources available to address those skills—is still relatively static. While a static approach may say much about the workforce as it currently exists as well as what will be needed to meet potential growth, it says little about how workers can navigate these two realities, moving between existing jobs and preparing for the jobs of the future by accessing education and training. The careers pathways model has gained significant traction by mapping the landscape of job and education/training opportunities within an industry or region and facilitating the effective movement of workers by raising awareness of these opportunities and how they are related.

Developing accurate and effective career pathways involves first understanding how in-demand jobs are related to other opportunities in the workforce based on their shared skills. Identifying the experience, education, training, or credentials necessary to move between these occupations (either by transfer or advancement) allows both employers and workers to better understand how existing resources can facilitate career movement. This dynamic understanding of industries and jobs provides additional insight into the ways in which systems might be better aligned to help facilitate a workforce that is mobile and adaptable.

The true value of the career pathways approach lies not only in its ability to facilitate a better understanding of workforce dynamics, but in its ability to communicate this information to job seekers and workers. As Randall W. Eberts has argued, “the next generation of workforce development programs will need to be smarter in providing information to customers” and “provide customers with [the] data essential to make informed [career] decisions” (Eberts 2015, p. 383). Career pathway

tools equip workers with the critical ability to more easily understand and navigate their place within the workforce.

For example, multiple industry-specific career-pathing tools have been developed recently that provide access to actionable information in an easily navigable, interactive, online format. Funded by J.P. Morgan Chase & Co. and developed in partnership with a wide range of stakeholders, the site www.PetrochemWorks.com was created in response to the steady demand for workers in the petrochemical industry in the Houston/Texas Gulf Coast region. Built on LMI validated by industry and education partners, the website matches users to several in-demand industry occupations based on an interests/skills profile. The user is then able to explore how these occupations are related to others in the industry and plan potential career moves, as well as determine the education and skills they will need to make those transitions. Access to this kind of dynamic planning is particularly useful for workers in an industry where demand can change quickly depending on economic circumstances (such as the price of oil). A similar tool focused on the New York City financial services sector, www.BankingOnMyCareer.com, also recently launched.

However, access to the significant design and development resources necessary to build interactive web tools is not necessarily a barrier to developing useful, detailed, or attractive career pathway information and resources. Career pathway work in Tulsa began when the Tulsa Regional Chamber recognized that the region's high employment was not reaching all neighborhoods and members of the community, indicating a need for a better understanding and alignment of the region's workforce and education systems. After working with local employers and other partners to analyze regional growth projections and education target assets, career pathways were outlined across nine of the region's target industries. As opposed to the single-industry focus of the prior examples, the purpose of this career-pathing project was to provide workers, employers, and other stakeholders with an understanding of career mobility across the entire regional workforce.³

UNIVERSAL ACCESS TO QUALITY EDUCATION

Still, open access to information regarding available career and skill-development opportunities is useful only if workers also have full access to the opportunities themselves. It is important not only for educational resources to be aligned with workforce needs, but also for these resources to be aligned with the needs of all learners. However, postsecondary education (especially higher education) systems have historically been built to primarily serve traditional (full-time, residential, aged 18–22) students, a population that increasingly makes up a shrinking portion of college enrollments (Kiley 2013). Using seat time (credit hours) as the default measure of credential completion not only privileges those with the time and ability to regularly sit in a classroom, it ignores (or even devalues) learning gained outside the classroom (Carnevale and Hanson 2015). For incumbent workers who may need to obtain a degree or pursue additional training to move up in their career, the ability to balance education with their current work through online, distance, or other alternative education options is vital.

Similarly, the ability to incorporate and officially recognize any relevant learning workers have acquired on the job into their education is not only practically useful—potentially allowing them to save time and money they would have otherwise spent on repetitive coursework—it can allow for a more integrated and engaging learning experience. Nontraditional education methods such as prior learning assessment (PLA)—in which prior workplace or life learning is evaluated and assessed for formal credit—provide one important avenue for addressing the needs of adults and working learners. While these models may not be appropriate to apply to all education or training programs, workforce development should include efforts to recalibrate how certain education programs and services are structured. This process also encourages greater communication between education systems and employers around the skills and learning outcomes sought from various programs.

The ECMC Foundation recently provided funding to four different communities (Philadelphia, Miami, Norfolk, and Seattle) to explore methods for better integrating PLA into existing workforce systems. The initiative is building on existing assets in each community, linking and strengthening relationships between local community colleges

and WIBs and promoting increased use of PLA. This also involves the development of processes that facilitate the referral of interested WIB clients with significant workplace learning to community colleges where they can receive credit, through PLA, in pursuit of a relevant degree or credential.

Innovate Northeast Florida, a private/public sector initiative aimed at bolstering employment and asset growth in the Jacksonville metropolitan area, provides another example of coordinated efforts to integrate PLA initiatives into regional workforce development. As a part of its newly formed regional strategy to encourage growth in five different target industries (including aircraft and aviation, and health-care information technology), the partnership's "Back to College" campaign is working to encourage adults to pursue STEM (science, technology, engineering, and math) education. This will allow the area to develop a more direct and immediate pipeline to fill in-demand occupations in these target industries. This campaign has included working with education institutions in the region to promote and implement PLA more widely, allowing adults to more easily access postsecondary STEM programs.

FOSTERING LIFELONG LEARNING AND CONTINUOUS SKILL DEVELOPMENT

Inherent in each of the healthy workforce ecosystem components we have addressed so far is a key assumption regarding the relationship between learning and work. That is, for a truly healthy workforce ecosystem, "work and learning must happen simultaneously, not sequentially, allowing for learning to have experiential context and for work to be improved by learning" (Good and Strong 2015, p. 20). Developing a healthy workforce ecosystem is not only a matter of developing the knowledge, programs, and systems necessary to link workforce demand with educational and training resources; it also requires cultivating a culture that values and encourages lifelong, work-based learning.

Even mainstream economic thinkers are beginning to highlight the fundamental importance of lifelong learning in economic and workforce development. The *Economist* (2017) argued that "to remain com-

petitive, and to give low- and high-skilled workers alike the best chance of success, economies need to offer training and career-focused education throughout people's working lives." Likewise, in a recent op-ed, Thomas Friedman advocated for a "permanent education-to-work-to-life-long-skill building pipeline" (Friedman 2017). At one level, the kind of workforce ecosystem we are describing reflects exactly this sort of pipeline: a system of integrated and mutually reinforcing programs, initiatives, and relationships that ensure workers are consistently aware of their place within the workforce as well as the development and advancement opportunities open to them. At a more fundamental level, a healthy ecosystem depends on a strong culture of lifelong learning, in which workers are not only aware of their existing skills and opportunities, but are motivated to constantly seek out the learning, education, and training necessary to refine these skills and develop new ones.

As an example, the Walmart Foundation's Opportunity Initiative is providing \$100 million in grants over five years to a range of organizations and local initiatives focused on clarifying and developing opportunities for workers in the retail sector. FHI360 is using this funding to better understand the foundational and transferable skills developed through retail work as well as test communication strategies that communicate this value to incumbent workers and job seekers. This emphasis on helping workers understand how retail jobs—which are often considered "dead-end"—provide skills that can be developed and applied to other, higher-wage, in-demand jobs helps cultivate this cultural value around ongoing skill development and lifelong learning, regardless of industry or workplace context.

Similarly, EmployIndy, the local workforce development board for Marion County, Indiana, is helping workers laid off from a local manufacturer by developing tools and resources that counseling staff can use to show how the skills and competencies the workers have developed in their current positions can help them secure jobs in other local in-demand industries. These tools and resources also point toward local education and training resources that can help develop and refine any additional skills the workers will need to enter another field. Not only does this provide workers with immediate assistance in identifying and securing new jobs, it also highlights the value of understanding how ongoing skill development and learning can mitigate the effects of layoffs and other shifts in local labor markets.

DEVELOPING COLLABORATIVE PARTNERSHIPS FOR GROWTH

The real-world examples provided throughout this chapter—drawn from a wide variety of CAEL projects that have taken place in communities and regions nationwide—illustrate how the various components of a well-aligned, healthy workforce ecosystem build and depend on one another to create an environment that encourages lifelong learning and ongoing talent development around in-demand skills, occupations, and industries. These examples also illustrate the wide variety of stakeholders and partners involved in building the components necessary for a healthy workforce ecosystem. Because the workforce and talent alignment challenges facing communities now are far too complex for any one entity to address on their own, building collaborative partnerships between workforce stakeholders—particularly employers and education partners—in a community or region is critical to cultivating a healthy ecosystem.

Any one of these players—WIBs, economic development organizations (EDOs), community colleges, chambers of commerce, industry associations, state agencies, national organizations, and many others—may fill a variety of roles in developing this ecosystem (or many at the same time), depending on local context. For example, the responsibility and ability to gather and analyze relevant LMI may fall to a community college in one community or region, or be the primary role of an EDO in another. As a result, the development of a formal workforce strategy that outlines not only the roles and responsibilities of each partner, but also the overall goals and measures of success for true system alignment, is critical. Successful examples of these sorts of comprehensive regional workforce development strategies include those developed by the Charleston Metro Chamber of Commerce in 2014 for the Charleston, South Carolina area,⁴ and the Centralina Council of Governments' 2012–2017 comprehensive economic development strategy (CEDS) for the Charlotte, North Carolina region.⁵

Even more important, however, is the ongoing process of fostering mutually beneficial, collaborative relationships between partners. This kind of relationship-building process is difficult to prescribe, as much of it depends on local history, the unique mix of relevant institutions

within a community, and their power dynamics. However, we have often found that one or more partners taking on the central role of conveners or lead intermediaries is often useful for mitigating and coordinating these partnerships. Increasing opportunities for communication and collaboration between all stakeholders (through regional industry and education roundtables, for example) is also beneficial.

The model of sector partnerships—in which employer, education, and workforce stakeholders convene regularly to address ongoing workforce challenges in a specific industry—is at least one emerging model for developing collaborative workforce initiatives that has seen significant success (Holzer 2015). Recent work by the Iowa Department of Education to coordinate sector partnership efforts across the state provides testimony to this success. A focus on addressing long-term industry workforce challenges through better alignment of educational resources has led to more targeted information sharing and collaboration between employers and education institutions (Woolsey and Groves 2013). In the case of Iowa, this has facilitated the development of statewide career pathways (in the information technology and energy industries) with input and validation from a broad range of employers and industry associations. These partnerships also allow for coordinated, statewide strategies to deploy these pathways to a range of users and audiences.

CONCLUSION: INVESTING IN A WORKFORCE ECOSYSTEM APPROACH

Moving toward broad-based collaborative models for building comprehensive workforce ecosystems entails a necessary shift in how workforce development efforts are funded. Investing in cultivating a healthy workforce ecosystem requires investing in more than just the federally funded workforce system. Wide ranging public and private investments in regional workforce development must become the new normal. Not only does this mean moving to a shared federal, state, and local approach to public workforce funding (Good and Strong 2015), it also means engaging local employers, industry associations, chambers

of commerce, and other private entities to invest in workforce development efforts.

Developing a healthy workforce ecosystem also requires investing in public policy goals that foster each of its components. This includes developing increased incentives for regional thinking among local governments (such as increased funds for regional councils of government or workforce intermediaries), as well as incentives to encourage employer investment in employee training and development. Implementing federal and state educational policies that allow for the development of more innovative and accessible instructional and learning approaches such as PLA (including the ability for students to use federal aid, such as Pell grants, to pay for these types of programs) will also be important. Finally, revitalizing work-based learning approaches (such as apprenticeship programs) can help foster the kinds of attitudes toward lifelong learning and skill development that allow workforce ecosystems to thrive.

More than shifts in funding and policy, however, a workforce ecosystem approach requires a fundamental shift in how we think about workforce development in the United States. Workforce development must be seen as an ongoing process, not a finished project. It is a constantly renewing network of collaborative relationships between invested stakeholders rather than just a series of discrete and individually targeted programs. Workforce development must constantly evolve to respond to the challenges of new economic realities, with constant realignment between shifting labor demand and ever-changing educational resources. Building healthy workforce ecosystems depends more on having the right players at the table than following a prescribed plan. Finally, it means integrating workforce development into all facets of our professional life and cultivating a culture of lifelong learning that sees ongoing skill development and career navigation as the nature of work, rather than as stages along the journey.

Notes

1. <http://p4pittsburgh.org/pages/inflection-point-supply-demand-and-the-future-of-work-in-the-pittsburgh-region> (accessed May 3, 2018).
2. The original inventory can be found here: <http://www.kcworkforce.org/Assets/reports/EducationAssetInventory2015.pdf>. The most recent (updated) version can be found here: <http://www.kcworkforce.com/EAI.pdf><http://www.kcworkforce.com/EAI.pdf> (accessed May 3, 2018).
3. <https://tulsachamber.com/careerpathways> (accessed May 3, 2018).
4. <https://www.charlestonchamber.net/talent-demand-analysis-results> (accessed May 3, 2018).
5. <http://www.centralinaedc.org/CEDS.php> (accessed May 3, 2018).

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