



# TRANSFORMING U.S. WORKFORCE DEVELOPMENT POLICIES FOR THE 21st CENTURY

## EDITORS

**Carl Van Horn**, John J. Heldrich Center for Workforce Development at Rutgers University

**Tammy Edwards**, Federal Reserve Bank of Kansas City

**Todd Greene**, Federal Reserve Bank of Atlanta

# **Transforming U.S. Workforce Development Policies for the 21st Century**

Carl Van Horn  
Tammy Edwards  
Todd Greene  
*Editors*

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## **Part 2**

# **Redesigning Workforce Development Strategies**



# 7

## **Creating and Communicating Critical Information about Workforce Credentials**

Stephen Crawford  
Robert Sheets  
*George Washington University*

The past decade has seen enormous growth in the number and variety of college degrees, educational certificates, industry certifications, occupational licenses, and badges that schools and certification bodies award, and which recipients present to employers as evidence of specific competencies. One result is increased uncertainty about the quality and value of labor market credentials and how they relate to each other. Employers wonder what holders of credentials really know and can do; students wonder about the value of a particular credential, compared to others, as they decide whether to invest time and money to obtain it. Regulators and student loan managers share these concerns, and all this uncertainty makes the labor market function much less efficiently than it would if there were greater transparency and trust.

This chapter argues that the solution to this problem is the voluntary standardization of the terms used to describe and endorse labor market credentials, combined with an open data registry for posting and accessing the resulting information. This standardization of terms would focus on the most important features of credentials—those that are essential for determining and comparing their quality, portability, and value in the labor market. It also argues that this solution can be achieved through a public-private collaborative and voluntary action.

In fact, an initiative along these lines is already well under way. Funded by a Lumina Foundation grant to George Washington University's Institute of Public Policy, in partnership with the American National Standards Institute (ANSI), this initiative involves more than

four dozen major credentialing stakeholders, including the nation's leading business and higher education associations and the U.S. Departments of Commerce, Education, Labor, Defense, Energy, and Health and Human Services. It encompasses all labor market credentials, from college degrees and educational certificates to industry certifications and occupational licenses to such microcredentials as "badges." This initiative is engaging these stakeholders through an open and collaborative process established by ANSI that has been successful in promoting transparency, interoperability, and trust in other sectors, including health care and energy. This process is designed to explore the role of a national public-private collaborative.

The results so far have been impressive. For many of 18 or so credential "descriptors" (i.e., relevant features critical in determining quality, portability, and value), the initiative has not only developed definitions, it has laid out the standardization problem, explained the basic dimensions and related coding schema, and spelled out paths to implementation. It has also developed detailed plans for a "reference model" for cross-walking competency statements written by different communities of practice, an open metadata registry for posting and accessing comparable credentialing information, pilot projects for testing several registry applications, and a collaborative of stakeholders that will assess the lessons learned from the pilots and decide whether to try to take the system to scale and make it sustainable through an appropriate governance structure and business model.

## **STANDARDIZATION AS A PUBLIC POLICY TOOL**

This chapter's argument exemplifies a promising but underdeveloped approach to public policy implementation in education and workforce development: the use of standards to create or improve markets to serve public purposes. Standards are agreed-upon definitions of the fundamental characteristics and interfaces of all types of entities in the marketplace, including products, services, processes, systems, organizations, and even people. The United States and other countries promote the development and implementation of national and global standards and conformity assessment systems to facilitate trade, improve the

performance of industry, protect consumers, and increase competition (National Research Council 1995). Standards promote competition—and collaboration—by facilitating transparency and fostering “interoperability,” thereby reducing information complexity and switching costs. Conformity assessment systems define the approaches for certifying that an entity conforms to the standards used to describe it in the marketplace, and they promote confidence and trust in the marketplace.

Unfortunately, standardization has received little attention in examinations of public policy tools. For example, Kamarck (2007) contrasts “government by market” to government by network (through contracts with private service providers) and government by traditional bureaucracy. Government by market, she argues, is the best option “when a policy consensus is reached that requires many hundreds of businesses or many thousands of people to change their behaviors” (p. 20). Most of Kamarck’s examples, from bottle deposit laws to tradable pollution permits, involve financial incentives. She does not discuss the role of standards in creating markets that are transparent enough for incentives to work, much less the benefits standards can provide even without financial incentives. This can be seen clearly in how standardization has been used to promote comparability and improve quality in health care and improve environmental reporting and management.

Standards help create more effective markets by making products or services comparable enough that consumers can weigh their relative merits and determine the price-value trade-off. Such informed choice creates competition to deliver the qualities that consumers most value at prices they are willing to pay. If employers and students could make more informed choices about which credentials best meet their needs, they could obtain better results with lower transaction costs. Similarly, the economy would benefit from a more highly skilled workforce whose education and training were provided by more productive institutions.

The first section of this chapter examines the credentialing problem, offers a vision of an effective credentialing system, and explains the need for a broadly coordinated effort to realize that vision. The second section describes three complementary strategies for achieving the vision: 1) developing more standardized terminology for describing the market-relevant features of credentials; 2) developing similar standardized terminology for describing the quality assurance (QA) entities such as accreditation organizations that accredit, approve, or endorse

these credentials; and 3) creating a public-private “registry” for making available essential and comparable information about credentials and QA entities. The third section describes the kinds of registry applications that employers, students, workers, and others are likely to value, and explains the role of a “credentialing collaborative” in this initiative, modeled on ANSI collaboratives that have been used to coordinate standardization initiatives in other sectors. A final section summarizes the argument and draws some conclusions.

## **THE CREDENTIALING PROBLEM**

Labor market credentials are attestations to the completion of specific training or education programs by students or to the passing of career-related knowledge and skill tests by candidates. They include but are not limited to educational degrees, certificates, industry certifications, and occupational licenses. Employers rely on them to provide second- or third-party validation—by a reputable credentialing organization or third-party assessor—of a job applicant’s possession of certain knowledge and skills. The public relies on them for assurance that certain workers—from welders and electricians to pilots and physicians—are qualified to practice a particular occupation or work role.

### **An Increasingly Chaotic Credentialing Marketplace**

For a modern, knowledge-based economy to function efficiently, the meaning of various credentials must be clear. Employers need to know what kind and level of knowledge and skill the holder of credential A has, compared to the holder of credential B, and how much to trust the claims made. Students and workers who seek to improve their position in the labor market need to know what jobs various credentials will qualify them for, what bump in earnings capacity they are likely to experience, how often they may have to renew a particular credential, and whether it is a stepping stone to higher-level credentials.

Similarly, those who give or lend students and workers money to pursue new credentials, including taxpayers, need to know what vari-

ous credentials mean and which education and training organizations to trust. Finally, credentialing organizations themselves, especially the good ones, have an interest in the ability of the market to recognize the distinctive features and value of the credentials they award.

In short, nearly all Americans have a stake in the nation's credentialing system, but unfortunately, the current system is not meeting their needs. Many employers express frustration at the difficulty of finding job candidates who possess the needed knowledge and skills, despite large numbers of people seeking work. Service veterans struggle to translate skills they learned in the military into civilian credentials and jobs. Young adults entering the labor market do not know what credentials will get them where they want to go and how best to obtain them. Individuals who need or wish to change careers find it difficult to translate skills and knowledge that may be of value in other occupations into credentials that will be recognized or college credits that will count toward a degree.

From the perspective of these "consumers" of credentials, the problem is the uncertainty about what different credentials signify. From the perspective of reformers, however, the problem is more systemic. It is the lack of transparency, trust, and portability in the nation's highly fragmented and complex credentialing "system." The result is unnecessarily high costs, wasted time, and inadequately informed decision making.

Skeptics may ask, if we've lived with this reality for so long, why bother trying to change it now? The answer is threefold. First, the problem has become more serious, as rapid growth in the number and variety of credentials, combined with the breakdown of traditional boundaries between different types of credentials (i.e., degrees, industry certifications), has intensified doubts about the quality and value of many credentials. Second, recent advances in information technology make it possible and practical, for the first time, to fix the problem. Finally, there is a new willingness among the key stakeholders to do the work required, due in part to their concerns about new competitors (e.g., for-profit, online, and competency-based providers) and growing pressure on governments to ensure the value of investments in postsecondary education.

### **Silos and communities of practice**

Today's complex and fragmented credentialing "system" developed over many years, through the interplay of loosely connected education and training providers, personnel certification bodies, accreditation organizations and federal and state regulatory agencies and boards. One result has been the emergence of different "communities of practice," each using its own technical language and quality criteria that other communities find difficult to decipher. Further complicating matters, these communities are supported by highly specialized reporting and data systems, which, though designed to promote transparency within certain sectors, are difficult to integrate with systems designed for other communities. For example, higher education institutions participate in a community of practice that includes accreditation bodies and federal and state education agencies. This community has its own language and terminology for describing degrees and certificates, as well as its own quality criteria established through its accreditation systems and federal and state regulatory agencies. Similarly, industry and professional certification organizations participate in their own communities of practice—communities with different languages and quality criteria (i.e., standards) and different accreditation and regulatory bodies. More generally, education and training in the United States is highly decentralized and subject to limited oversight by the federal government and most state governments.

At the same time, there are overlaps among these communities, such as when college and university degrees are linked to certification or licensing systems—this is often the case in engineering and health care. These links are even used by the academic community as outcomes to demonstrate the quality of the education they provide. Such a segmented and complex system makes it very difficult for employers, students, workers, and government funders to compare and evaluate the major features and overall value of different credentials.

### **Growing number and variety of credentials**

The credentialing marketplace is growing rapidly, as more employers require credentials beyond high school and more people pursue them. Increasingly, these credentials include educational certificates, industry certifications, and occupational licenses. A recent report

(Ewert and Kominski 2014) reveals that fully one-quarter of adults in the United States, many of whom have a degree as well, have one or more nondegree credentials, and that full-time workers with them have higher median earnings than those without.

The greatest growth has been in educational certificates, which now represent half of all community college credentials awarded. According to Georgetown University's Center on Education and the Workforce (Carnevale, Rose, and Hanson 2012), "Certificates have grown from 6 percent of postsecondary awards in 1989 to 22 percent today . . . [and] have superseded associate's and master's degrees as the second most common award in the American postsecondary education and career training system" (p. 3).

These new credentials have different and frequently changing names and claims regarding their quality and value. They vary as well in how they present their scopes of application, such as the types of employers and jobs that value them. They also vary in their claims regarding how they can be transferred, bundled, and stacked with other credentials, and whether and how they recognize prior learning. The lack of "stackability" of many credentials poses problems for students and employers. That's one reason employers in some industries (e.g., oil and gas, information technology) set rigorous standards for certifications, which has prompted several Texas community colleges to partner with them to create stackable credentials that allow students to reenter college seamlessly when they need more training (Garcia 2014). There has also been considerable growth in the numbers and types of industry and professional certifications offered in such major industries as health care, energy, information technology, and manufacturing. ANSI estimates that the number has climbed from 3,000 a few years ago to more than 4,000 now, with fewer than 10 percent of them accredited.<sup>1</sup>

Many of these certifications are sponsored or endorsed by long-standing industry and professional associations with strong employer engagement. Others, however, are the creations of independent assessment vendors with varying levels of industry involvement and recognition. In short, certifications vary widely in how to qualify for and attain them, and in their cost and market value.

Finally, there is the rapid expansion of "badges," MOOC (massive open online courses) certificates of mastery, and other "microcredentials" that can be aggregated into higher credentials. Badges are now

offered by such credible schools and programs as the Kahn Academy, Carnegie Mellon, MITx, and edX. This movement resembles the growth in “competency-based” resumes and portfolios, with links to documentation and evidence of performance, and in the skill profiles now being used in professional networking sites (e.g., LinkedIn), which have become a major resource for employer recruitment and hiring.

### **New credentialing models and breakdowns in traditional boundaries**

The credentialing market is also witnessing the emergence of new, hybrid credentialing models that combine various features of the traditional models. To be sure, there have always been relationships among different types of credentials, such as when professional certifications require certain educational credentials and are integrated into education degree and certificate programs. However, such combining has grown more complex and varied. Competency-based credentialing, involving direct and prior learning, is leading many colleges and universities to adopt characteristics normally associated with industry and professional certifications. Some institutions are “unbundling” assessment and credentialing from education and training, making them look even more like certification organizations.

In addition, many college programs, especially those moving to competency-based models, are now fully integrating industry and professional certifications into their degrees and certificates, and folding the costs of these certifications into tuition and fees. This integration is being reinforced by industry- and government-led initiatives to promote comprehensive education and career pathways. Some colleges are developing industry certifications in cooperation with national and regional industry partners and/or the federal government, and are seeking accreditation from industry accreditation organizations in addition to traditional higher education accreditation bodies.

On the other hand, some industry and professional certification programs do not share many of the features normally associated with certification systems, such as ongoing renewal requirements and due process procedures for “removing” a certification from an individual. At the same time, they are developing programs or partnering with others to offer online education and training services, much like educational

degree and certificate programs. This growing trend is bringing down the traditional “arms-length” relationships between industry certification and education and training programs, and is now raising major questions about the third-party, independent status of industry certification organizations.

Finally, the badge movement and related efforts regarding competency-based portfolios and skill profiles on professional networking Web sites are sparking further innovation in credentialing. These developments challenge widely held assumptions about what credentials are and what differentiates them from each other and from other attestations of competencies now circulating in the marketplace. In short, there is growing heterogeneity within these communities but increasing overlap among them, adding to the complexity of the broader credentialing “system.”

### **Crisis of Confidence**

The rapid growth and change in the world of credentialing is shaking confidence in the quality and value of almost all credentials. Employers increasingly complain that college graduates lack the skills expected and needed. According to a recent poll (Gallup and Lumina Foundation 2014), 96 percent of chief academic officers think their institutions are equipping their graduates for the workforce, but only 11 percent of employers strongly agree. At the same time, high unemployment and debt among college graduates is causing students and families to question the value of many higher education credentials. All this is sparking spirited debates about whether and how colleges and universities should work with employers to better understand their needs and to better communicate the knowledge and skills they teach and the assessment practices they use.

In response, “accountability initiatives” have arisen that are pushing educational institutions to define and operationalize program outcomes, including student learning, credential attainment, and employment and earnings. Similarly, competency-based credentialing is raising questions about the competencies involved and the assessments and QAs used to create confidence in them. Reinforcing these questions are growing concerns about credit transfer, prior learning assessment, and the lack of recognition of competencies of posttraditional students with

extensive work experience and training, including returning veterans. The proliferation of industry and professional certifications, including similar ones competing in the same industry, is raising related concerns in the certification community, where there is a growing awareness that certifications have varying levels of employer support and recognition.

Most efforts to address these problems have focused on one credentialing silo or issue. Now, however, several initiatives are building connections among credentialing reform efforts. They include the Lumina Foundation's Degree Qualifications Profile, Department of Labor initiatives around industry-based competency models and competency-based work profiling systems (using O\*NET), state initiatives around career cluster frameworks and sector-based pathways, industry endorsement initiatives, and such global initiatives as Europass, which is promoting the standardization of credentialing documentation across Europe. Most of these show considerable promise in their chosen arenas and are starting to make connections to other related initiatives. Yet, their varying frameworks, technical terminologies, and quality criteria are not likely to yield the improvements needed in comparability and interoperability (e.g., mutual recognition, credit transfer) across different types and dimensions of credentials. Real progress requires a more comprehensive approach.

A decade or two ago, talk of a comprehensive approach would have been utopian. Three recent developments, however, suggest that the time has come to attempt it. First, the growing support for and practice of competency-based education has set the stage for a shift to credentials that describe the competencies achieved, preferably in comparable terms. Second, any attempt in the United States to create a more coherent credentialing marketplace stands to benefit from the wealth of experience acquired by other countries making similar efforts, most notably those in the European Union. Finally and most importantly, advances in Web technologies now make it reasonably cheap and easy to create more standardized terminology and a public-private registry for all kinds of credentials.

A comprehensive approach begins with a broad vision of an effective credentialing system and spells out ways to achieve it. Given the preceding analysis of the problem, we believe that the vision should be of a competency-based credentialing system characterized by high lev-

els of transparency, quality, trust, and portability. Transparency would enable interested employers, whether individual firms or industry associations, to communicate clearly their competency requirements. Such communication would be via a standardized terminology that is also used by—or readily translated into—the terminology used by credentialing organizations. It also would enable reporting the distribution and concentration of employers providing this information. The quality and trustworthiness of credentials would be as high as needed, because credentialing organizations could be easily assessed on whether they address employer-defined competencies and whether the level of QA assures that credential holders have the competencies represented by the credentials.

Trust would be high because employers could clearly communicate the level of QA they require, using a standardized terminology for describing quality criteria that is also used by credentialing organizations and those who accredit and endorse them. This would allow students to use these quality criteria and accreditation and endorsement signals to choose pathways for attaining high-quality and trusted credentials. Finally, credentials would be more portable than today because employers everywhere would use more standardized terminology to define competency and credentialing requirements (including QA criteria), and credentialing organizations would do the same. This improved portability would allow students to build competency-based, stackable credentials from multiple credentialing organizations that are more flexible in meeting variable and changing employer requirements.

In summary, the fragmented and complex nature of labor market credentialing in the United States, with its distinct communities of practice using different technical languages and quality criteria, make it very difficult for stakeholders to compare and evaluate different credentials. The recent growth in the numbers and kinds of credentials is exacerbating this problem and producing a crisis of confidence in credential quality and value. The solution involves taking advantage of recent advances in information technology to create a credentialing system characterized by high levels of transparency, quality, trust, and portability.

### **Three Complementary Strategies for Solving the Credentialing Problem**

Let us turn then to the nature of and requirements for transparency, trust, quality, and portability.

*Transparency* is present when labor market participants (such as students, workers, and employers) and stakeholders (such as funders and regulators) have access to complete, accurate, and “comparable” information on all the features of credentials that are important for determining quality and value. These features include how credentials can be attained and used, eligibility, costs, where they can be applied, and how different credentials relate to each other in terms of mutual recognition and transfer as well as pathways to other credentials and careers.

*Quality* has many meanings but in general can be defined as “fitness for intended use.” Determining whether a credential is fit for its intended use requires information on intended application and how competencies were developed and validated with employers for this intended relevance and whether employers confirm or endorse their application. It also requires information on intended value, including labor market value (e.g., employment and earnings) and transfer value (e.g., credit transfer). Another widely cited dimension of quality is whether a product or service is provided “defect free.” Applied to credentialing, this dimension refers to whether individual credential holders actually have the competencies described in their credentials within acceptable levels of variance. Ascertaining that requires information on the type of assessment used to determine competency and the degree of validity and reliability involved in awarding credentials. It also requires information on QA systems.

*Trust* is critical because it permits confidence that the information provided in the marketplace is complete, accurate, and up-to-date, and that there are systems in place to review and reaffirm this over time. Different types of credentials require different levels of confidence, depending on employer needs, government regulations, and the risk tolerance of market participants. Of course, providing higher levels of confidence usually means higher costs. In some cases, employers may settle for self-declaration by individuals; in others, they may demand evidence from credentialing organizations. In more critical cases, how-

ever, they may require some type of third-party review to ensure accurate and reliable information.

*Portability* is present when credentials are sufficiently “interoperable” to allow mutual recognition of competency attainment across various types of credentials, and are recognized across different industries and occupations as well as states and eventually countries. Interoperability is the necessary foundation for competency-based, stackable credentials from multiple credentialing organizations that are more flexible in meeting changing employer requirements.

Improving transparency, quality, trust, and portability requires robust data systems for publishing and accessing comparable information on key features of credentials. It also requires credentialing organizations and their accreditation and regulatory partners to voluntarily post these data to some kind of registry. Doing so need not be costly; indeed, today’s technologies make it possible to automate the updating of posted information. Below we spell out the three strategies we recommend for realizing this vision of a credentialing system characterized by high levels of transparency, quality, trust, and portability.

### **Strategy 1: Developing More Standardized Language**

The first strategy addresses the need for comparable information about all types of credentials related to quality and value. There are many different ways to provide comparable information, but they all require some type of standardized terminology involving common definitions and classification frameworks and typologies. Below is our first cut at defining the key features or “descriptors” of credentials and credentialing organizations for promoting transparency, portability, trust, and quality.

#### **Transparency and portability: What do market participants need to know?**

- Credential name, version, and type. The name(s) used to describe the credential in the marketplace, along with related classification names (e.g., CIP codes) used in reporting systems; the version of the credential that is being described; and the type of credential based on common definitions of credential types such as degree, certificate, certification, and license.

- Competency requirements. The competencies required to earn a credential, expressed in a formal and structured language that make any competency description easily comparable to competency descriptions expressed in other formal and structured languages. Further explanation is provided below.
- Type and scope of primary application. The intended type of application and the scope of the primary application, such as job roles (e.g., types of occupations), industry context (e.g., health care), and geographic area.
- Labor market value. The degree of employer recognition and support, and the expected career returns in terms of employment and earnings or other types of recipient valuation, such as recognition and status.
- Credential transfer value. How the credential relates to other credentials for transfer or recognition of competencies (e.g., eligibility, mutual recognition, credit transfer, advanced standing) and to meet the requirements of other credentials.
- Education and career pathway connections. How the credential fits with other credentials within education and career pathways.
- Eligibility requirements. What is needed to get the credential in terms of assessment, work experience, education (e.g., high school diploma, college degree), and other eligibility requirements?
- Education and training opportunities. The available education and training opportunities to prepare for assessments, gain necessary education requirements, and become credentialed.
- Credential holder profile. The number and characteristics of credentialed individuals and their geographic locations.
- Occupational regulation and licensing. The relationship to federal and state occupational and professional regulation and licensing requirements.
- Maintaining credentials. What is needed to maintain a credential's status in terms of continuing education or other requirements?
- Credential removal. Can the credential be revoked and if so, what is the process?

- **Costs.** The costs involved in meeting eligibility requirements and receiving and maintaining the credential.

**Trust and quality: What assurances do market participants need?**

- **Competency development and validation.** The process used to identify, develop, and validate competencies based on the scope of application.
- **Assessment.** How competencies are assessed and documented and what level of assurance (i.e., validity and reliability) is provided that people have the required competencies.
- **Quality assurance.** What systems do credentialing organizations have in place to assure that all requirements, including assessments, are met in awarding credentials; that the credential is providing the intended value (e.g., labor market value); that all information provided to the market (transparency) is accurate and reliable; and what third-party QA entity accredits, approves, or endorses their credentials?
- **Authentication.** What systems do credentialing organizations have in place to authenticate credential holders and communicate the current credentialing status of all credential holders to employers and other labor market participants, as well as to education and workforce development funders and regulators?
- **Version management and control.** How the system manages changes in all major features over time and keeps records on credentialing system versions (e.g., competency requirements, assessment systems, costs).

It will not be easy to develop a more standardized terminology for these key descriptors across all segments of the credentialing marketplace. The major segments already have long-established and specialized languages that may be difficult to integrate into a common overarching framework. Success will require the development of frameworks or reference models that enable different credentialing communities to crosswalk and translate different languages, allow for constant change and adaptations, and promote greater harmonization over time. It also will require standardized terminology that permits enough customization to meet the needs of specialized communities without losing

comparability. Other challenges include how to operationalize many of these descriptors and establish a data infrastructure for sharing the resulting data. Finally, another challenge is how to provide the necessary market incentives for credentialing organizations to provide this comparable information.

Despite these challenges, developing a more standardized terminology is entirely possible. Moreover, it would provide the needed foundation for public and private initiatives to improve credentialing *quality* in the United States.

- Industry organizations could more clearly define the quality criteria they use to recognize and endorse credentialing systems, and could align and harmonize endorsed systems in their career and education pathway frameworks.
- Higher education degree frameworks such as the Degree Qualifications Profile (DQP) could use this terminology to improve the understanding of competency levels for each type of degree and to improve the capacity of institutions to develop clear and assessable competency statements—statements that are appropriate for their degree level and their connections to other types of credentials (e.g., industry certifications).
- Credentialing organizations could more easily benchmark themselves against other credentialing organizations, national standards, quality criteria established by industry organizations, and the quality criteria established by reform initiatives and leading qualification frameworks.
- Third-party higher education accreditation organizations and accreditation organizations for industry certifications could use the more standardized terminology to align and harmonize their QA systems.
- Government agencies could use the terminology to align and harmonize their own quality criteria with accreditation organizations and industry and reform initiatives. The new language could also provide a clearer and more consistent funding and regulatory environment.
- Federal and state government agencies could use this terminology to build better consumer and labor market information systems based on a registry.

## **Strategy 2: Aligning QA Systems**

The second strategy addresses the need to align and harmonize accreditation systems and industry endorsement systems, as well as related credentialing reform initiatives attempting to improve QA in the credentialing marketplace. As in the first strategy for credentials, it focuses on using more standardized terminology to communicate clear and comparable quality criteria for all types of credentialing. It also addresses how these QA systems and related initiatives could leverage the proposed registry to improve “transparency” in the credentialing organizations they endorse, accredit, or otherwise approve.

### **Alignment and harmonization of quality criteria**

As described above, the existing credentialing system involves a wide variety of accreditation, approval, and recognition organizations using a broad range of criteria to provide QA. Although there have been attempts at collaboration among these organizations, little progress has occurred.

In higher education, the national, regional, and specialized organizations that accredit institutions and programs express criteria for quality in very specialized languages and terminologies that their communicates of practice have developed over decades. Similarly, in the world of industry and professional certification, a wide variety of national and international accreditation organizations use their own quality criteria. There are points of connection between higher education and industry accreditation involving professional associations (e.g., engineering), but most organizations operate largely within their respective QA silos.

This situation is further complicated by the tendency of federal and state regulatory and licensing agencies to use still different criteria for assuring quality, and leading national and state industry associations to endorse credentials as “industry-recognized,” using yet different criteria. In addition, state education agencies (e.g., Career and Technical Education offices) produce their own lists of recognized industry credentials, and federal, state, and local workforce development agencies designate approved providers of education and training.

Given the confusion in the credentialing marketplace described in the problem statement above, there is a clear need to align and harmonize the quality criteria used by these public and private QA orga-

nizations. There are many approaches to doing that. One is to use a common terminology to standardize the way these organizations classify and communicate their quality criteria, as well as the actions (e.g., status granted to a credentialing organization or specific credential) they take and what they are assuring when they accredit, approve, or endorse. This would provide greater transparency in comparing quality criteria without requiring adoption of the same criteria. It would allow stakeholders to compare and contrast the quality criteria among different accreditation organizations so they more fully understand what accreditation means for a credentialing system or organization. Such a change would respond to the recommendations of accreditation expert Paul Gaston (2014) for moving toward more consensus, alignment, and coordination of accreditation standards, protocols, actions (e.g., accreditation status), and vocabulary.

This also could serve as a useful first step toward further alignment and harmonization across higher education and industry accreditation, as well as industry and government recognition and endorsement systems. This increased transparency and identification of commonalities would lower costs for institutions and reduce the redundancy of QA processes that could lead to further collaboration among QA systems. There are many commonalities among various credentialing QA systems. For example, most QA bodies are moving toward the assessment of outcomes rather than on the many processes that lead to outcomes. Inclusion of these common components in a credentialing registry would increase the transparency and comparability of QA systems, which themselves would experience market and regulatory pressure to cooperate once the opportunity existed.

In sum, the second strategy would align endorsement, approval, and accreditation quality criteria; facilitate transparency and benchmarking; and engage QA systems in encouraging credentialing organizations to use the registry to meet transparency requirements. Success would require an unprecedented but entirely plausible coordination of all public and private organizations involved with QA in the credentialing marketplace, ranging from higher education and industry accreditation organizations to federal and state regulatory agencies to industry-led endorsement systems. The credentialing initiative described in the beginning of the chapter involves many of these bodies, and thanks to its partnership with ANSI, it is well situated to reach out to others.

### **Strategy 3: Creating a Public-Private Credentialing Registry**

The third strategy addresses how, in practice, to provide more comparable and trustworthy information to the credentialing marketplace based on the standardized terminology and related frameworks described above. This plan reflects three assumptions. First, whatever the approach, it is vital to address the scale of the challenge—the growing number and variety of credentials and the sheer number of documents and data systems that must be accessed and integrated to provide comparable information on the proposed descriptors. Second, effectiveness requires building from existing procedures used by credentialing organizations to communicate information in the marketplace and related data infrastructures that support these efforts. Third, it is important not to impose additional reporting burdens on credentialing organizations and their accreditation and regulatory bodies, as well as other QA entities.

Finally, transparency requires guides and tools that can present comparable information in usable ways. A sound approach will promote the development of guides and tools for employers, students, and other stakeholders who may use this information to improve credentialing quality. This could involve using techniques like those employed in national and state “open data” initiatives in health care and transportation. These initiatives would provide applications developers with free access to a rich data infrastructure to create a wide variety of applications (“apps”) for different types of stakeholders.

#### **Harnessing the power of credentialing Web sites**

Publicly accessible and searchable Web sites based on widely adopted Web technology standards are by far the most widely used “one-stop” mechanism for communication within the credentialing marketplace. These sites use content management systems to publish information from multiple sources, including both documents and databases. Most credentialing organizations already use their Web sites to publish information on some of the proposed “descriptors” for credentialing systems and provide linkages to internal or external supporting documents and databases. They also use their sites to address “transparency” requirements from federal and state regulatory agencies and accreditation organizations.

For example, most universities, four-year colleges, and community colleges use their Web sites to provide information on their different programs, including those programs' scopes of application, course requirements (which may involve student learning outcomes), and application and eligibility criteria as well as tuition, fees, and other costs. They also provide linkages to documents that contain more detailed information, including college catalogs and reports on institutional and program performance and accreditation status. Starting with credentialing Web sites addresses the problem of scale, because existing Web sites already contain more detailed information on more types of credentials than is currently available in any existing national or state reporting system.

These Web sites will soon be able to do much more. The World Wide Web Consortium (W3C) and related global and national standardization organizations are helping to promote Web technologies that move the Web from a "Web of documents" to a "Web of data," housed in distributed data systems throughout the world. Semantic Web technologies enable people to publish data on the Web in the form of structured documents and databases; build common terminology, vocabularies, and advanced ontologies; and develop query languages for accessing and using these data through applications. These Web technologies, plus advances in computational linguistics or natural language processing, provide the foundation for the Credentialing Registry discussed later in this chapter.

There are two major problems with using existing credentialing Web sites as the building blocks for a national public-private data infrastructure. First, these sites provide noncomparable information presented in widely varying formats and organizing structures. This information is also drawn from a variety of source documents and databases, some of which are managed by other organizations, such as data clearinghouses and state regulatory agencies. Second, they are not usually designed to regularly publish and share information with other data systems and maintain a regular updating schedule or manage version control with historical records of previous versions. However, these problems can be fixed with the following two solutions:

- 1) **Develop data standards for the common terminology.** Examples include standards developed through the Common Education Data Standards and the Postsecondary Education Standards Council as well as standards developed for human

resource information systems, such as work undertaken by the HR Open Standards Consortium. These data standards should address all types of data contained in both traditional data systems and structured documents (e.g., competency statements found in technical documents) consistent with Web standards and tools discussed earlier.

- 2) **Develop a public-private registry.** Establish an open public-private registry similar in design and function to the existing Learning Registry.<sup>2</sup> This registry could be based on a decentralized and open distribution network model that fully reflects the diversity and segmentation of the credentialing marketplace and the diversity of the communities organized around different types (e.g., degrees and certificates) and domains (e.g., industry pathways, state licensing, and regulation) of credentialing. The distribution network could involve network nodes within and across communities that could be used by both producers (i.e., credentialing organizations) and users (e.g., applications developers).
  - **Share credentialing system data.** The registry could be used to publish, share, and access comparable data about all types of credentialing systems based on data standards for the common language using formal, comparable definitions, coding systems and dictionaries, and frameworks, taxonomies, and other types of schema. Credentialing systems would be able to publish (push) data about themselves and access (pull) comparable data about other systems. This could include the publishing and sharing of descriptor schema (e.g., coding schemes, taxonomies, classification frameworks) and crosswalks. It could include guides and tools for publishing, accessing, comparing, and analyzing credentialing system descriptions and schema.
  - **Link to related registries and data systems.** Establish linkages with related registries such as the Learning Registry as well as with possible future registries for occupational descriptions or e-portfolios, especially registries that contain common or related data items such as competencies. Establish linkages to other data systems including national and state longitudinal data systems and clearinghouses.

- **Create an applications marketplace.** Support an open marketplace of Web-based applications. These applications would be designed to improve transparency for stakeholders, including employers, education, and training providers, and federal and state government funding and regulatory agencies. They could provide guidance on writing competency statements, provide more accessible and valid consumer and labor market information based on career pathway and education qualifications frameworks, develop more efficient clearinghouses for credit transfer and market value recognition, develop credentialing resource centers for compiling and sharing information on different types of credentials or those meeting specified quality criteria, and develop employer and industry endorsement systems or consumer rating systems for credentialing systems based on their credentialing transfer and labor market value.

This strategy will require the alignment and harmonization of current data standards initiatives, as well as the leveraging of Web technology standards that are critical in harnessing the potential power of credentialing Web sites and registries. These requirements are addressed below when discussing the role of a credentialing collaborative.

## **BUILDING AN OPEN APPLICATIONS MARKETPLACE**

The ultimate value of a credentialing registry containing comparable data on credentials and QA entities will be determined by how it is actually used by employers, students, and workers, and by labor market intermediaries to improve the credentialing marketplace. This will require an open applications marketplace with application developers providing new Web tools and resources for all major stakeholders in the credentialing marketplace. Guided by an advisory committee representing these stakeholders, the initiative described here has identified several potential applications that could add value in the credentialing marketplace. The next phase of the initiative will refine and test several “apps,” including the following three, on a beta-version of the credentialing registry.

- 1) **Credentialing guidance**—compiling directories or inventories of credentials that are based on the criteria (e.g., scope of application, market value) defined by industry groups, government agencies, and career and education guidance systems.
- 2) **Employer signaling and talent pipeline management**—providing tools for employers to use for communicating their competency and credentialing requirements, and working with education and training and credentialing partners to improve their talent pipeline performance.
- 3) **Credentialing transfer value**—providing tools to improve the transfer value of credentials based on competencies rather than more traditional currencies, such as credit hours through competency-based clearinghouse applications that can analyze a wide variety of credentials, such as degrees, certifications, badges, and prior learning assessments.

## **ROLE AND SCOPE OF A CREDENTIALING COLLABORATIVE**

At the beginning of the chapter, we said that government by market could be achieved through the use of standards and financial incentives. But how do standards get developed and enforced? Informal de facto standards are based on widespread use or the dominance of one or more players that use or support them. Formal standards are developed through a process managed by recognized standards development groups under the coordination of national and global standards governance bodies. These can be voluntary and implemented based on their value and acceptance in the marketplace (and often promoted through government policies). Alternatively, they can be involuntary and enforced through laws, regulations, and other policy tools. We favor voluntary standards for defining credentials in the United States.

The development and implementation of voluntary credentialing standards requires a broad-based public-private partnership that brings together all the major stakeholders (public and private). The best way to do all this is through a credentialing collaborative similar in role and function to public-private collaboratives facilitated by ANSI.

## **Background: ANSI and the Global Standards Network**

The United States and other countries promote national and global standards and conformity assessment systems for a wide variety of purposes, including facilitating global trade, improving industrial performance, increasing competition, and protecting consumers. ANSI facilitates the development of American National Standards by accrediting standards-developing organizations. It also accredits conformity assessment organizations to determine the fulfillment of standards requirements. ANSI also provides the bridge to global standards and conformity assessment initiatives and serves as the official liaison to such international bodies as the International Organization for Standardization and the International Accreditation Forum. This is an important connection, enabling the United States to address increasingly global credentialing challenges in cooperation with other countries.

## **Need for a Credentialing Collaborative**

Quite separately from its accrediting work, ANSI frequently establishes “standards collaboratives” (formerly called panels) to explore the need for improvements in critical areas. It established a Healthcare Information Technology Panel to harmonize and integrate standards for sharing health care information for clinical and business applications. It has conducted similar collaboratives for energy efficiency, homeland security, nanotechnology, nuclear energy, biofuels, and electronic vehicles. In each case it staffed these as a neutral convener of all the major stakeholders. An ANSI-sponsored collaborative does not develop standards itself but rather works with stakeholders to harmonize existing ones, identifies any need for additional ones, and develops plans for their development by others.

The next phase of this credentialing transparency initiative will involve the formation of a similar standards panel on credentialing, with one minor and one more substantive difference. The minor one is that the collaborative will be convened and hosted by ANSI’s affiliate, Workcred, rather than ANSI itself. The bigger difference is that the stakeholders in this collaborative will focus on evaluating the value produced and lessons learned from the next phase’s testing of a beta-version of the registry and of the three “apps” mentioned above. Early

in the process, working committees of stakeholders will establish the performance measures, metrics, and benchmarks. Later they will assess the test results against these benchmarks and determine whether and how to take the system to scale, including what kinds of governance and business models would make it sustainable.

## CONCLUSION

This chapter began by showing how a complex and confusing credentialing system is hurting employers, students, workers, and the economy. It then presented three strategies for making the system more coherent and efficient. Together, these strategies emphasize the use of voluntary standardization to achieve transparency, consistency, and comparability in descriptions of all credentials and to align all quality criteria. They employ a distributed, Web-based data infrastructure—a registry—to enable cheap and easy access to meaningful and current credentialing information. The chapter also described an existing initiative that has engaged all the key stakeholders in a promising effort to implement these strategies. Future publications will report on its results.

## Notes

1. Personal communication from Dr. Roy Swift, ANSI's Chief Workforce Development Officer, April 2014.
2. The Learning Registry is a new approach to capturing, connecting, and sharing data about learning resources available online established by the Departments of Education and Defense but supported by many other organizations, including the Library of Congress. For more information, see [www.learningregistry.org](http://www.learningregistry.org).

## References

- Carnevale, Anthony, Stephen J. Rose, and Andrew Hanson. 2012. *Certificates: Gateway to Gainful Employment and College Degrees: Executive Summary*. Washington, DC: Georgetown University Center on Education and the Workforce.
- Ewert, Stephanie, and Robert Kominski. 2014. *Measuring Alternative Educational Credentials: 2012*. Washington, DC: U.S. Department of Commerce, U.S. Census Bureau.
- Gallup and Lumina Foundation. 2014. *What America Needs to Know about Higher Education Redesign: The 2013 Lumina Study of the American Public's Opinion on Higher Education and U.S. Business Leaders Poll on Higher Education*. Washington, DC, and Indianapolis, IN: Gallup and Lumina Foundation.
- Garcia, Reynaldo. 2014. "Stackable Credentials: An Approach for Middle Jobs and Beyond." *Educause Review* Online, January 27.
- Gaston, Paul, L. 2014. *Higher Education Accreditation: How It's Changing, Why It Must*. Sterling, VA: Stylus.
- Kamarck, Elaine, C. 2007. *The End of Government . . . As We Know It: Making Public Policy Work*. Boulder, CO: Lynne Rienner Publishers.
- National Research Council. 1995. *Standards, Conformity Assessment and Trade into the 21st Century*. Washington, DC: National Academy Press.

# 8

## **Moving Sectoral and Career Pathway Programs from Promise to Scale**

Christopher T. King  
Heath J. Prince  
*University of Texas*

While the evidence is still emerging, it is clear from the handful of rigorous studies that have been conducted to date that sectoral and career pathway programs can be highly effective strategies for increasing the employability, employment, earnings, and other outcomes for job seekers. It is highly likely that such strategies lead to positive economic results for employers as well. They also yield lasting net benefits for taxpayers and society as a whole. The question then is how to sustain, replicate, and bring them to scale, which is the focus of this chapter.

It is important to note at the outset that, positive evidence notwithstanding, sustaining and scaling these strategies face a steep uphill battle, in no small part due to the legacy of decades emphasizing doing things “on the cheap.” Whether from the 1990s welfare reform efforts that stressed “work-first” labor force attachment models or from the early “sequence-of-services” approach embedded in the Workforce Investment Act (WIA) of 1998, strategies stressing real investments in skills leading to jobs paying wages offering economic self-sufficiency simply were not part of the policy and program landscape.

## THE RISE OF SECTORAL AND CAREER PATHWAY STRATEGIES

### Emergence

The family of strategies to help low-income, low-skilled individuals succeed in the labor market and to help employers meet their needs for workers with the right mix of skills began to emerge in the 1980s and 1990s. Initially, these sector-based strategies were designed to respond to the needs of key industry groups in various sectors by aggregating employer demand for common skills. It was assumed that this would introduce an efficiency and rationality missing from the existing workforce development system. While some of these programs focused on the low-skilled population, many more tended to help employers find and improve the skills of a more highly skilled and educated segment of the workforce.

Motivated by a need to improve workforce development programming, and acknowledging the reality that skills training would likely occur over the lifetime of the individual, advocates for career pathway strategies sought to create structured, sequential training and education opportunities that, over time, allow a worker to gain the skills needed to continue to advance in the labor market. With time, as it became clear that effectively meeting the skill needs of employers and the advancement needs of workers also required better structured program offerings from community colleges, sectoral strategies began to evolve into broader career pathway approaches involving provider institutions, especially community colleges, as well as employers. In some cases, this has meant the integration of career pathways into broader sector-based strategies. In others, however, it has meant the development of *occupational* career pathways almost completely free of any recognition of sectorwide needs.

Finally, given the desire to address the particular needs of job seekers pursuing sectoral and career pathway opportunities, many of whom had basic skills deficits that impeded their progress in for-credit as well as noncredit course sequences, so-called bridge programs—programs that aim to provide occupationally contextualized basic education in order to prepare participants to enter more formal postsecondary programs—

were developed. Some of these programs (e.g., Integrated Basic Education and Skills Training [I-BEST]) are now seen as national models for helping low-skilled adults contextually build basic *and* occupational skills at the same time in the pathways and sectors they are pursuing.

### **Sector Strategies, Career Pathways, and Their Integration**

While many career pathways programs claim to be sector-based, this is rarely the case, and for good reason. Sector-based strategies emerged independently and prior to career pathways as a framework for organizing investment in skills training. Over a relatively short period of time, however, what began as an effort to define advancement paths for workers participating in sector programs became a distinct career pathways approach to training as the workforce development field began digesting the expanding literature on the relationship between income and postsecondary credentials. This shift in emphasis from aggregating employer demand for skills within a sector to one focused on postsecondary credentials marked the beginning of what are known now as career pathways models.

While the precise origins of this evolution toward a focus on postsecondary credentials are likely not identifiable, simple observation of the changes in the workforce development field between the mid-1990s and early 2010s suggests that some early successes with sector-based programs and the appeal of providing workers with a semblance of employment security through career pathways programs led to the growth in foundation and, ultimately, government support for programs that would not only provide skills training but also potentially lead to a credential that, unlike some occupationally specific skills, was transferable.

A key distinction between sectoral strategies and career pathways models is that the former tend to be driven by employers organized within a sector, while the latter may focus on the needs of particular sectors but do not necessarily rely on employers as critical “drivers” and are typically occupationally, rather than sector, focused; they may successfully train and place dozens of certified nursing assistants each year with little direct input from health care employers, relying on labor market analysis, want ads, job vacancy postings and other information. Effective career pathway efforts may be developed and operate mainly

within community and technical colleges, but usually only with considerable input from employers in growth sectors.

### **Sector Strategies**

An organizing principle of sector-based programs is the assumption that there are efficiencies to be gained from collectively addressing the common skills needs of similar employers within an industry sector. For example, paper manufacturers in Western Massachusetts can, in theory, identify skill needs common across their companies, work with a local training provider to create training curricula, and hire from a common pool of workers trained in the skills needed. This approach is seen as a departure from past practice in which multiple training providers, to degrees varying between “hardly at all” and “effectively,” identified the skills in demand, created curricula they felt would meet this demand, and then competed among each other to have their trainees hired. Duplication of effort, inconsistency in training standards, and the occasional fly-by-night training providers all contributed to employers’ suspicion of the “second chance system,” not to mention the sometimes very poor services delivered to participants. Additionally, education and training institutions have little incentive to engage employers because their funding is based on enrollment in, and sometimes completion of, classes rather than on job placement.

Sector-based programs have expanded considerably since the first efforts emerged in the early 1980s. They have included the following, among others:

- The Bay State Skills Corporation was established in Boston in 1981 as an economic development tool that built education and industry partnerships to produce skilled workers for high-tech companies (initially) in Massachusetts.<sup>1</sup> It subsequently merged with the Industrial Service Program to become the Corporation for Business, Work and Learning, doing business as the Commonwealth Corporation. This may be one of the earliest examples of a concerted sectoral strategy in action. Commonwealth Corporation has continued to play a key role in fostering these strategies.

- San Antonio’s Project QUEST was designed in 1990–1991 and enrolled its first participants in 1992.<sup>2</sup> Its numerous offspring—Valley Initiative for Development and Advancement, or VIDA (Weslaco, TX, 1995), Capital IDEA (Austin, TX, 1998), Advanced Retraining & Redevelopment Initiatives in Border Areas, or ARRIBA (El Paso, TX, 1999) and several others—now span the South and Southwest, from Arkansas and Louisiana to Arizona and New Mexico. The Southwest Industrial Areas Foundation and its local interfaith affiliates develop and sponsor these projects. Project QUEST was explicitly designed to be driven by employers in key sectors of the economy (e.g., health care). These efforts provide intensive longer-term skills training, typically offer stipends to offset the costs of training and foregone earnings, and ensure broad-based community support (Campbell 1994; Deaton and McPherson 1991).
- The Wisconsin Regional Training Partnership (WRTP) was established in 1992 as part of an effort to “renew the industrial base of Milwaukee.”<sup>3</sup> It relied on a model of preemployment training for job seekers, helping them to qualify for family-sustaining jobs in the industrial sector. With the creation of Wisconsin Works (W-2) by Governor Tommy Thompson, WRTP provided opportunities for former welfare recipients and other low-income central city residents to acquire the skills they needed to qualify for family-sustaining jobs. Since 2001, when the organization began expanding into the construction sector as part of a grant from the U.S. Department of Labor/Employment and Training Administration (USDOL/ETA), WRTP has been known as WRTP/BIG Step.
- The JOBS Initiative, which was launched by the Annie E. Casey Foundation, operated for eight years starting in 1995 in Denver, Milwaukee, New Orleans, Philadelphia, St. Louis, and Seattle.<sup>4</sup> It aimed to connect young inner-city residents to family-supporting jobs and to improve the way urban labor market systems worked for low-income, low-skilled workers. The Initiative emphasized finding jobs with career opportunities and promoting longer-term job retention for participants, stressed the importance of both employers and job seekers as customers, focused

on outcomes to track performance, and used data to promote accountability.

- National Network of Sector Partners—funded by Ford, Mott, Annie E. Casey, and the William and Flora Hewlett Foundations—was formed in 1999 under the leadership of the late Cindy Marano and is an initiative of the Insight Center for Community Economic Development.<sup>5</sup> It is a nationwide membership organization (e.g., sector initiative leaders, researchers, employers, labor unions, funders) that promotes and supports sector initiatives.
- Washington State Skills Panels—regionally based, industry-driven partnerships of employers, public systems, and other stakeholders—began operating in 2000 and have expanded statewide in a number of key sectors, including the wine industry in the Walla Walla area in the southeastern part of the state.<sup>6</sup> They now appear firmly embedded in the state’s approach to workforce and economic development.
- The Accelerating Adoption of State Sector Strategies Initiative, a joint effort of the National Governors Association, the Corporation for a Skilled Workforce, and the National Network of Sector Partners, was launched in 2006 with support from the Ford, Charles Stewart Mott, and Joyce Foundations.<sup>7</sup> The initiative sparked interest in and supported the adoption of sector strategies in a dozen or more states relying on three major mechanisms: a six-state Learning Network (Arkansas, Illinois, Massachusetts, Michigan, Pennsylvania, and Washington), a five-state Policy Academy (Georgia, Minnesota, North Carolina, Oklahoma, and Oregon), and a Knowledge Exchange open to all states (NGA Center for Best Practices, National Network of Sector Partners, and Corporation for a Skilled Workforce 2008).

With major support and leadership from the Annie E. Casey, Ford, and Rockefeller Foundations, sectoral strategy efforts began morphing into the “workforce intermediary” activity in 2003 and 2004 (see Giloth [2004]). This activity centers around the convening function of third parties, typically some sort of CBO, but occasionally labor/management partnerships, community colleges, Workforce Investment

Boards (WIBs), or employer associations, to mediate between groups of employers and training providers to meet skill demands. The National Fund for Workforce Solutions, which was launched in 2007, led to further expansion of sector strategies fostered by workforce intermediaries with a mix of Ford, Annie E. Casey, Hitachi, and Joyce Foundation support, as well as early funding from USDOL/ETA.

### **Key Sectoral Strategy Components**

Sectoral strategies generally strive to improve the economic situation of workers through increased employment, wages, benefits, and earnings over time. They also seek to improve access to employees with the necessary skills, increase productivity, and boost regional competitiveness. As noted above, these strategies directly engage employers and associations of employers by industry sector to better understand and respond to their hiring and career advancement requirements.

Sectoral strategies tend to act as *integrators* (Glover and King 2010, p. 231). According to Conway et al. (2007), they

- target specific industries and/or clusters of occupations;
- intervene through credible organizations (often “workforce intermediaries”);
- support workers competing for quality job opportunities as measured by wages, benefits, and advancement opportunities;
- address employer needs and competitiveness; and
- create lasting change in labor market systems helping workers and employers.

At their best, they also tend to complement cluster-based economic development in states and regions that are actively pursuing such strategies by articulating career pathways and career advancement opportunities, developing standardized industry training, establishing standards for job quality and working conditions, assisting with market coordination, brokering business networks, and helping to develop strategic plans (NGA Center for Best Practices 2002, p. 32).

## Sector Partnership Features

As noted above, sector-based approaches typically include career pathways elements in that they aggregate employer demand for skill across a range of occupations, working to meet skill needs at multiple levels within a sector and to advance workers along a sector-based career path. The converse does not typically apply, however, in that while they may include the term *sector* in their title, most career pathways programs lack many of the defining features of sector partnerships, as well as the competencies needed to implement them.

The National Network of Sector Partners estimates that some 1,000 sector partnerships are operating across the country, and about half of the states and the District of Columbia are either exploring or implementing such strategies.<sup>8</sup> Such partnerships tend to span multiple industry sectors (83 percent) and have the features shown in Table 8.1.

## A Career Pathways Typology

At present, there are essentially two types of career pathways operating. The first type is built around an articulated set of courses, or components of courses, that permit individuals to learn skills and gain postsecondary credentials related to a specific occupation. These pathways identify entry and exit points along the way, from which individuals can enter postsecondary course work, exit into the labor market with a marketable skill and certificate to vouch for it, and reenter at a later point, earning credits that “stack” toward the completion of a degree. This type of career pathway emphasizes advancement along a well-defined postsecondary and employment track.

A second type of career pathway relies much less on a continuing role for postsecondary education for advancing individual workers. Instead, this type identifies occupations that appear to have career pathways built in, and it focuses more on preparing individuals, often through postsecondary courses resulting in the earning of industry-recognized certificates. This type more closely resembles the work-first approach to workforce development, placing the onus on workers to take care of their own advancement.

Measurements of success differ between these two types. With the former, success is typically measured in terms of advancement through

postsecondary course work and/or training, earning of certificates, placement in the labor market, earnings gains, and labor market retention. With the latter, metrics of success are typically limited to placement in a high-demand occupation, gains in earnings, and labor market retention.

**Table 8.1 Sector Partnership Characteristics**

Key features	Findings
Industry sectors	Sector-based programs operate in 22 different industry sectors, including health care (66 percent), manufacturing (57 percent), and construction (40 percent), which continue to be the three main industries targeted. More than a third of sector partner organizations operate in the energy and utilities sector, a growing trend.
Organizational types	Workforce Investment Boards (27 percent) and community-based organizations (22 percent) are the most common sectoral organizations, though many others (e.g., unions, community colleges) are in the mix as well.
Geographic scope	Sector partnerships are mainly city, county, or regional in scope (75 percent), while others are statewide or nationwide (22 percent combined).
Target populations	Individuals with low incomes and racial minorities make up large shares of participants served by sector partnerships, 50 percent and 46 percent, respectively. In addition, over one-fifth of participants are displaced/dislocated workers, nonnative English speakers, and those with less than 12 years of education.
Common services	Almost all (93 percent) sector partnerships offer direct services to workers or job seekers. The most common service is job seeker training (e.g., soft skills and job readiness training), followed by incumbent worker training (technical or trade skills), career counseling and management, and placement services.
Extended duration	Most (85 percent) have partnered on sector initiatives for at least 3 years with a median time of 6.5 years.

SOURCE: Mangatt (2010).

## Common Denominators in Career Pathways Programs

Career pathways programs are typically targeted to regional labor markets, sometimes focused on key employment sectors. They also combine education, training, and on-the-job learning.

Career pathways programs also aim to provide a framework for workforce development by integrating the various programs and resources of community colleges, workforce agencies, and social service providers in more structured sequences (Alssid, Goldberg, and Klerk 2002). According to Jenkins (2006, p. 6), the ideal types of pathways offer “a series of connected education and training programs and support services that enable individuals to secure employment within a specific industry or occupational sector, and to advance over time to successively higher levels of education and employment in that sector.”

Depending on the target group, career pathways programs may offer three levels of training: basic skills training, entry-level training, and upgrade training and education. They often provide paid internships as well. Such efforts have included *Shifting Gears*, a high-profile effort launched in 2007 and supported by the Joyce Foundation and matching state funds in six states (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) as a “state policy-change initiative.”<sup>9</sup> *Shifting Gears* innovations included “breaking longer diploma and degree programs into shorter certificate modules, prioritizing industry and occupational sectors that offer good jobs in career pathways, and offering classes at a wider variety of places, days, and times” (Strawn 2010, p. 2). At least two *Shifting Gears* states’ efforts—Wisconsin Industry Partnerships and Illinois Career Clusters—stressed strong ties to sector and industry initiatives for their state adult education reforms.

Career pathways programs often feature what are referred to as bridge programs, or occupationally contextualized basic education programs, to bring low-income, low-skilled students’ basic skills up to levels that allow them to make progress in for-credit courses and advance effectively to the point of obtaining certificates and/or degrees with proven value in the labor market (Jobs for the Future 2010; Strawn 2011). The need to create these bridges became clear as career pathway efforts began coming to grips with the basic skill deficiencies their participants arrived with and the obstacles these presented for their advancing in the programs on any reasonable timeline. In some

instances, these became explicit “career pathways bridges” programs. Examples of these programs include the Breaking Through Initiative and Washington State’s I-BEST. Sectoral strategies sometimes include such bridge programs as well, depending on the entry-level skills of the job seekers they serve.

## **THE EVIDENCE: DO THESE STRATEGIES WORK?**

The evidence base for sectoral and career pathways programs and their expansion remains thin, but it is growing, and there is much more in the evaluation research pipeline.<sup>10</sup> Only a handful of highly rigorous impact evaluations have been carried out to date, though many more implementation studies have been conducted. Table 8.2 shows the more prominent impact evaluations that these programs have included.

Note that these evaluations mainly estimate the impact of the intent to treat; the Capital IDEA and I-BEST evaluations also estimate the impact of the treatment on the treated. The difference between the two estimation approaches can be substantial when a large share of those assigned to a particular treatment fail to receive it.

### **Effects on Program Participation**

Most process studies report that sectoral and related programs tend to have high rates of participation in program services, as well as high program completion and credential rates, distinguishing them sharply from typical education and training programs that have served low-income, low-skilled populations in the United States in recent decades. It has been quite common for those assigned to different training strategies in major national evaluations—such as the Job Training Partnership Act Study in the late 1980s and early 1990s (Orr et al. 1996) and the National Evaluation of Welfare-to-Work Strategies (NEWWS) in the mid- to late 1990s (Hamilton 2002)—not to receive the treatment at all, while many of those assigned to the control group have in fact received similar services. Unfortunately, few of the more rigorous evaluations of sectoral or career pathway programs have tracked increased

**Table 8.2 Rigorously Evaluated Sector-Based, Career Pathway, and Bridge Programs**

Method	Description
Random assignment	Three sectoral training programs—Per Scholas (New York City), Jewish Vocational Service (Boston), and the Wisconsin Regional Training Partnership (Milwaukee)—conducted by Public/Private Ventures and the Aspen Institute (Maguire et al. 2010).
Quasi-experimental evaluation and return-on-investment analysis	Capital IDEA, an Austin, Texas–based sectoral training program conducted by researchers at the Ray Marshall Center at the University of Texas at Austin’s LBJ School of Public Affairs (Smith, King, and Schroeder 2012; Smith and Coffey (Chapter 31 in this volume).
Random assignment	Comprehensive Employment Training (CET) Replication initiative, a sectoral career pathway program for youth, conducted by MDRC (Miller et al. 2005).
Random assignment	Year Up, a multisite career pathway, sectoral, and bridge program for youth and young adults, conducted by Economic Mobility (Roder and Elliott 2011, 2014).
Quasi-experimental	Washington State’s Integrated Basic Education and Skills Training bridge program conducted by researchers at the Community College Research Center at Columbia University (Zeidenberg, Cho, and Jenkins 2010).

participation, completion, or credential rates. Table 8.3 shows the statistically significant results from these studies.

### **Labor Market Impacts**

Rigorous evaluations of sector-based and career pathway programs also estimated meaningful, statistically significant impacts on key labor market outcomes of interest for participants, and these impacts tended to be longer-lasting than those of typical workforce programs.

**Table 8.3 Participation Effects from Sector-Based, Career Pathway, and Bridge Program Evaluations**

Program	Participation effects
Per Scholas, Jewish Vocational Service-Boston, Wisconsin Regional Training Partnership (WRTP)	Participation in education and training services was fully 32 percentage points higher for participants in the three sectoral programs relative to controls.
Comprehensive Employment Training (CET)	Participating CET youth received 145 more hours of training and earned credentials at a rate 21 points above that for controls.
Year Up	Year Up participants were actually 13 points <i>less</i> likely to have attended college in the four years following random assignment than controls; adjusting for non-receipt of services (i.e., the effect of the treatment on the treated), participants were fully 20 points less likely to have attended college.
Integrated Basic Education and Skills Training (I-BEST)	I-BEST participants experienced a 17-point increase in service receipt, a 10-point increase in college credits earned, and a 7.5-point increase in occupational certifications earned three years after enrollment; however, there were no statistically significant effects on the number of associate's degrees earned.

SOURCE: King (2014).

### **Employment**

With the exception of Year Up and I-BEST, participation in sector-based and career pathway programs was associated with statistically significant increases in employment extending from two to seven and a half years postprogram. Even in programs that did not boost overall employment rates (such as Year Up), program participation led to increased employment in the targeted sectors, typically in much better jobs than those held by control group members.

## Earnings

Sectoral and related strategies generally produced significant increases in earnings for participants. Earnings impacts of 12–30 percent were found extending from two to seven and a half years after enrollment and stemmed from both increased duration and hours of work as well as higher wages. For example,

- WRTP participants earned 24 percent more than controls over the two-year study period, largely from both higher wages and working more hours; they were much more likely to work in jobs paying \$11 and \$13 per hour than controls. Participation in Jewish Vocational Services-Boston and Per Scholas was associated with similar results.
- Participation in Austin’s Capital IDEA led to substantial earnings increases over nearly eight years post program and also increased participants’ eligibility for Unemployment Insurance by 11–12 percentage points, allowing many of these low-income workers to become eligible for the first-tier safety net.
- Year Up participants’ earnings exceeded those of controls by 32 percent three years after the program, largely as a result of trainees working in jobs that were full- rather than part-time (and paying higher wages—\$2.51 per hour more).

Finally, one of the few studies to examine ROI estimated internal rates of return (IRR) of 9 percent for taxpayers and 39 percent for society over 10 years; the estimated IRRs were 17 percent for taxpayers and 43 percent for society over 20 years (Smith and King 2011). Returns for individual participants were even higher, at 73 percent and 74 percent for 10 and 20 years, respectively.

So, while the evidence is still emerging, these studies suggest that sectoral and career pathway programs can be highly effective strategies for increasing the employability, employment, earnings, and other outcomes of job seekers. While it is likely that these programs also benefit employers by improving worker productivity and enhancing their economic competitiveness and profitability, these are not impacts that have been estimated to date, either in simple outcomes studies or more rigorous evaluations. The findings also suggest that these strategies may yield lasting net benefits for taxpayers and society as a whole.

## **APPROACHES TO PROGRAM REPLICATION AND SCALING: A BRIEF REVIEW**

Replicating effective program models, those supported by rigorous evidence, and taking them to something approaching scale with fidelity and a modicum of success have long been the concern of policymakers at the federal and state levels. Excellent examples of replication and scaling efforts in recent years include those around the Comprehensive Employment Training (CET) program in the 1990s, the push to expand workforce intermediaries across the nation led by the National Fund for Workforce Solutions since the mid-2000s through the use of funders' collaboratives, the initiative to replicate the I-BEST approach in the 2000s, the Southwest Industrial Areas Foundation (SWIAF) efforts to build a network of sectoral/career pathway programs since the 1990s, and the ongoing work of the Alliance for Quality Career Pathways to establish quality career pathway approaches in the states led by the Center for Law and Social Policy (CLASP), the National Governors Association (NGA) and others, to name some of the better known ones.

These and other efforts have employed differing models and approaches, have faced numerous challenges, and have been able to take advantage of opportunities along the way. Some have enjoyed more success than others. Examining these in the context of the literature on replication offers lessons that may be applicable to the replication and scaling of sectoral and career pathway models.

### **Replication and Scaling Models**

Bradach (2003) describes five approaches to replication and scaling: 1) the franchise approach, 2) mandated replication, 3) staged replication, 4) concept replication, and 5) spontaneous replication. Franchising is typically utilized by a central or national office that is coordinating the expansion of a model with a highly standardized set of components, such as CET. Mandated replication is often directed by government, federal or state, which wants to expand a particularly effective service model, as may happen under the newly reauthorized Workforce Innovation Opportunities Act of 2014. Staged replication generally entails a three-staged approach starting with a pilot testing for concept viabil-

ity, moving to a demonstration phase, and ultimately to full replication (e.g., the JOBS Initiative of the 1990s and the National Fund for Workforce Solutions [NFWS] starting in the mid-2000s).

Concept replication is focused more loosely on components and general principles guiding the model, rather than on specific components, e.g., I-BEST, NFWS, and AQCP. Finally, spontaneous replication is characterized as an approach that is more bottoms-up, responding to demands for information and assistance from partners who are potential collaborators on program expansion, such as SWIAF. This is one useful conception of these models. There may be others worth considering as well.

### **Big-Picture Challenges and Opportunities**

Replication and scaling are fraught with challenges. To be sure, the biggest of these is simply the lack of adequate resources. In the face of reasonably convincing evidence that a “better mousetrap” exists, without resources program officials are unlikely to promote these strategies. Equally problematic, resources may well be present but may be tied to conducting business as usual, whether in terms of WIA’s sequence of services that leave little funding for training, or the community college system’s emphasis on enrollment in programs over labor market outcomes for career pathways participants.

Second, key components, activities, or services for effective models may simply not be permitted under particular programs or funding streams, or they may be difficult to support and implement across funding streams and platforms. For example, while more intensive, longer-term training is a component of sector-based and career pathway programs, Temporary Assistance for Needy Families and Supplemental Nutrition Assistance Program employment and training programs may not readily allow them, despite the presence of a large population in need.

Third, state or local policy orientations and priorities—for example, a continuing preference for work-first, labor force attachment approaches—may also inhibit expansion of these models, federal provisions notwithstanding. There is wide variation from state to state and WIB to WIB in the share of WIA expenditures on skills training (Barnow and King 2005; Mikelson and Nightingale 2004).

Finally, community and technical colleges exhibit a large range in terms of their priorities and focus as well. Some are eager partners in workforce training initiatives and have strong connections with employers and industry associations, while others are largely focused on performing the academic transfer function for four-year institutions of higher education. Expanding sectoral training and career pathways in such communities would be daunting.

There are also big-picture opportunities. First, the policymaking community and the wider public appear to be acutely aware of the skills challenges the United States now faces if it hopes to maintain its edge in global competition. They also seem to be highly supportive of and willing to fund evidence-based initiatives to address these concerns. Importantly, this support tends to cross the political aisle.

Second, there is probably strength in expanding using multiple replication models: any number of organizations and networks now appear to be strongly supportive of the expansion of sector-based and career pathway approaches in ways that seem to fit many, if not most, of the replication models.

Finally, career pathways approaches are tailor-made for the “completion agenda” promoted by the Obama administration and taken up by multiple governors, emphasizing the attainment of postsecondary credentials by 60 percent of the adult population by 2025. If it is to meet this goal, the completion agenda will not only need to focus on traditional students, but it will also need to include as an objective increasing the occupational skills and education of nontraditional students (i.e., working-age adults). Well-designed career pathways programs that include multiple postsecondary entry and exit points, award industry-recognized credentials, and work toward a postsecondary degree are highly complementary to the broader postsecondary goals set by the administration.

## **SPECIFIC CHALLENGES TO SUSTAINABILITY AND SCALE**

Multiple challenges to expansion and sustainability exist for both career pathways and sector-based programs, not least of which is the current congressional stalemate that serves as the backdrop to these

efforts. Congressional attitudes aside, career pathways and sector-based programs will need to clear several hurdles before replacing business-as-usual in the workforce development field. Descriptions of these hurdles follow.

## **Entropy**

Career pathways programs have gained considerable traction in recent years, with specific programs and studies written into UDSOL requests for proposals, and multiple national and state initiatives supported by private foundations and state agencies. Despite this support, however, and despite (broad) guidelines put forward in federal requests for proposals, the approach has suffered from inconsistency in design, definition, and implementation, making it difficult to determine whether the approach is effective versus whether a particular career pathways program has succeeded in meeting its goals. This point is not lost on proponents. Career pathways advocates, such as CLASP, the Workforce Strategies Center, and Jobs for the Future, have attempted to create frameworks to assist in standardizing the approach with a common definition of terms, metrics, and outcomes to which career pathways programs should conform.

These frameworks each contain many of the same fundamental career pathways elements—some level of employer engagement, a recognition of the importance of postsecondary credentials, and the need for support services. However, they vary along several lines, including the key partners and their roles (are career pathways primarily part of the workforce development system or the postsecondary education system; are individuals or systems, whether workforce development or postsecondary education, primarily responsible for mapping out advancement opportunities?), and the importance placed on a clearly articulated set of outcome metrics. On this latter point, CLASP has developed beta versions of a framework as part of its Alliance for Quality Career Pathways (CLASP 2013b), in which it specifies a series of interim education and training and labor market outcomes, as well as a set of suggested criteria that can be used by developers to create and assess the performance of career pathways.

The absence of a clear and widely accepted definition of what constitutes a career pathway has contributed to a sort of entropy as the

practice has expanded. Where definitions exist (e.g., USDOL's guidance memos), enforcement of the application of these definitions often falls short. One USDOL-supported career pathways program currently operating was funded thanks to a proposal that provided a state-of-the-art definition of a career pathways model. However, holding the several WIBs involved accountable for implementation of this approach, as opposed to the short-term training for which they have opted, has fallen largely to an intermediary with no real authority for mandating WIB compliance.

If career pathways and sector-based models are ever to replace the status quo, and if the evidence base for their effectiveness is to grow, some mechanism, such as restrictions on eligibility for applying for future innovation grants, for holding implementers accountable, will need to be put into place and routinely used. Absent this, WIBs, with some justification, will be tempted to use this funding to replace funding lost in prior years.

### **Funding Erosion**

Federal, state, and local funding for workforce development programs has seen steady erosion over the past few decades, with ARRA investments in 2009 the exception that proves the rule (see Eberts and Wandner [2013]). With the exception of Pell Grants, federal funding for employment and training programs has remained essentially flat and, since 2000, has even seen modest declines from already poorly funded levels. Until very recently, state and local funding has fared little better than federal support for workforce development programs.

The erosion of funding for workforce development programs reflects a broader attitude among policymakers, one that sees human capital development as a cost to minimize rather than an investment that will produce positive returns. As the center of the policy discourse has shifted rightward over the past two decades, advocates for social safety net programs in general, and employment and training programs in particular, have lost ground to advocates for a leaner government, tax cuts, and, implicitly, a greater degree of self-reliance. Successfully portraying workforce development programs as second-chance programs has meant, among other things, that innovation in the field, such as career pathways and sector-based programs, often comes at the expense

of current programs, rather than in addition to. “Robbing Peter to pay Paul” is a recipe for failure, and efforts to sustain the more effective programs will continue to suffer as a result.

### **Poaching**

While an improvement on the status quo, sector-based programs are not without limitations. Where the ideal type of sector-based program described above has existed, it has had to guard against “poaching” among participating employers—that is, against the practice of employers hiring participants from training programs before they have actually completed the program.

This workforce development equivalent of the “tragedy of the commons” has undermined many promising sector-based programs, particularly in times of tight labor markets. Indeed, by virtue of the fact that these programs are designed to respond to critical education and skills shortages, career pathways and sector-based programs are often the victims of their own success. One career pathways program operating in a state currently experiencing a boom in its extraction industry has had to contend with employers hiring students long before they have completed their programs and, more important, earned the certificates that should serve them over the long term. Only after lengthy negotiations between the colleges and employers has this practice begun to turn around.

### **Lack of Substantial Support from Employers and Industries**

On the other side of the poaching coin is the difficulty in remaining relevant to employers. Sector-based programs are effective only when there is significant employer engagement. As noted above, employer engagement can take many forms, including providing input on training curricula, donating machinery on which to train, providing subject matter experts to assist with instruction, funding worker training, hiring, or some combination of these.

However, gaining and maintaining employer engagement is subject to a number of factors, not least of which is demand for skills in the targeted industry. The tight labor markets of the late 1990s and early to mid-2000s made for relatively high levels of employer engagement

and led to the creation of a number of particularly innovative workforce development programs (see, for example, Barnow and Hobbie [2013]). With the onset of the Great Recession in 2008 and the sharply increasing unemployment rates across the board, sector-based programs began to experience difficulties in maintaining employer interest. Larger numbers of skilled workers looking for employment, coupled with the contraction of the overall economy, led to a waning interest in sector-based programs among employers.

The cyclical nature of employer engagement has been, and will continue to be, a limiting factor in sector-based strategies' ability to significantly influence the larger workforce development system, unless the approach is systematically adopted as the organizing framework for public investment in workforce development. This position currently is held by postsecondary education-based career pathways approaches that place a greater emphasis on the awarding of marketable certificates and credentials than on organizing sector actors around the key characteristics of sector-based strategies noted above, namely, working directly with employers in a given sector to identify common skill needs, factoring the regional economy into the equation, and promoting worker advancement as a function of skill development within a specific sector. Career pathways programs right now are dominated by occupational-based rather than sector-based training, rarely taking the regional economy into consideration, and frequently operating with little, if any, direct employer input. Also, the focus on bringing the low-skilled into the labor market seemingly would no longer be of interest to employers who can be more selective and favor the already prepared applicant.

### **Cross-Platform Conflicts**

Long considered one of several venues for skills training, including apprenticeships and on-the-job training, postsecondary institutions have become the venues of choice for workforce development practice in general and, more recently, sector-based programs and career pathways in particular. This move was supported by a growing literature on the merits of postsecondary credentials for labor market advancement, as well as the wider dissemination of innovative programming among some higher education institutions (e.g., the North Carolina Commu-

nity College System, admittedly designed primarily for workforce development and, later, the Washington State Board for Community and Technical Colleges).

However, this move has been resisted by postsecondary institutions, especially by community college faculty, over concerns that the academic mission of the institutions is diminished by acting as training providers rather than as transfer institutions. Resistance also has come from WIBs over concerns that the ever-shrinking pot of employment and training funds is being increasingly repurposed to provide education and training services for participants in postsecondary education programs (namely, the repurposing of WIA training funds, the significant percentage of Workforce Investment Fund projects with postsecondary partners, and the designation of postsecondary institutions as the grantees in USDOL's Trade Adjustment Act Community College Career Training initiative).

In addition, the metrics by which a career pathways or sector-based program may measure success—such as completion of industry-recognized credentials, advancement in the labor market, or earnings gains—often work at cross-purposes with the metrics by which WIBs measure success—typically limited to placement, earnings gains, and retention. Where a WIB is funded to implement a career pathways program, effectively implementing the program must include some method for taking these more comprehensive metrics into account.

These tensions, while certainly still present, have become somewhat less visible as policies take root and the administration endorses a closer alignment between workforce development and postsecondary education. Notable exceptions to these tensions exist, however. Washington State's Skills Panels and Wisconsin's efforts under the Shifting Gears Initiative, for example, have successfully combined not only postsecondary credentials with workforce development system funding and support, but also, especially in Wisconsin, combined a genuine sector-based approach with a career pathways model. As noted above, Washington was able to achieve this through state policy that enabled the creation of a network of regional, sector-based collaboratives.

Wisconsin's success was built on several factors, including solid design and implementation, close coordination between principal actors in the state's Department of Workforce Development and the community and technical college system, a replication of this relationship at

the regional level between WIBs and community colleges, seed funding from the Joyce Foundation, state funding, and executive-level buy-in. To be sure, there are other examples, but each likely has some of these elements in common.

### **Weak Adult Education Programming**

The emergence of bridge programs and the implementation of contextualized instruction in the I-BEST spinoffs are an acknowledgment of the difficulties in serving minimally literate, low-skilled individuals in programs that are ultimately designed to provide workers with literacy and skill levels sufficient to fill high-skilled, high-demand occupations. Adult education has long been viewed a relative backwater in the realm of workforce policy and programming (see, for example, National Commission on Adult Literacy [2008]). Funding has been severely limited and has largely flowed to state and local programs regardless of performance, while content and curriculum have received inadequate attention, all despite the critical role of basic skills in helping adults prepare for more advanced skills training.

### **Poor Participant Supports**

Given that a large majority of sector and career pathways programs are funded by the second-chance public workforce development system, it stands to reason that these funds are targeted to serve a population that requires significant support to complete their programs. However, career pathways or sector programs rarely come funded at the levels needed to pay for most of the more basic support services, such as child care, transportation, or assistance with books and fees, let alone many of the other services that can contribute to program completion, such as tutoring, mentoring, or career counseling. Instead, funding comes with a small fraction of the support needed, with the expectation that existing or matching funds will be used to make up the difference.

Even when appropriately funded, implementing support services can be difficult. Integrating the provision of services into a postsecondary-based career pathways or sector-based program requires coordination between staff who understand the needs brought by the population being served and a postsecondary faculty who may object to the inter-

ruption to routine that the provision of these services can represent. Here again, the traditional mission of postsecondary education comes into conflict with the focus on workforce development that career pathways and sector-based programs represent. Changes to student orientation programs, additional flexibility in course scheduling due to work and transportation conflicts, limited funding available for counselors with the requisite skills for serving nontraditional student populations, and time required for faculty training in the need for these services each represent strains on the status quo and create friction points.

### **Work-First Policy “Hangover”**

Despite the innovations that career pathways and sector-based programs represent, both are still burdened by a hangover of sorts from the previous era of work-first policies. These policies emphasized very short-term training and placement in employment over longer-term education and training programs that prepare individuals for employment in family-supporting occupations that also provide opportunities for advancement. The work-first mantra was: “Get a job; get a better job; get a career.” Work-first is now widely discredited on numerous fronts, ranging from intensive, longitudinal research on labor market transitions showing that remaining in low-wage jobs and sectors typically leads to wage stagnation (e.g., Andersson, Holzer, and Lane 2005; Brown, Haltiwanger, and Lane 2006; Holzer et al. 2011), as well as longer-term evaluation results demonstrating that the near-term labor market impacts of labor force attachment tend to fade out, while skills investments persist over time (e.g., King 2004; King and Heinrich 2011).

## **KEY OPPORTUNITIES FOR GOING TO SCALE**

The greatest opportunities for taking sectoral and career pathway models to scale are found in a number of different workforce and education arenas that are discussed below. All of them are likely to be aided to an extent as yet unknown by the newly enacted Workforce Inno-

vation Opportunities Act, which passed both houses of Congress with near unanimity and was signed into law by President Obama on July 22, 2014. Further assistance may be forthcoming by way of Perkins and Higher Education Act reauthorizations if Congress can sustain its rare bipartisan comity on them.

## **National Networks and Initiatives**

Over the past few decades, a number of national networks have grown up in support of sectoral and career pathway strategies. These seem to offer the best opportunities for scaling up such strategies over time in that they are committed to these strategies, have developed specialized expertise and lasting relationships with providers and employers in key sectors, and in some cases have created political and related community networks to sustain and support them. Some of the more noteworthy of these are discussed below.

### **National Fund for Workforce Solutions**

The NFWS was launched in the mid-2000s by the Annie E. Casey, Ford, and Rockefeller Foundations to foster the use of workforce intermediaries and sectoral strategies led by funder collaboratives in communities across the country. USDOL, the Hitachi Foundation, and other funders joined the effort soon after, and, nearly a decade on, NFWS-supported projects are operating in more than 30 communities. NFWS sites offer another major opportunity for scaling up sectoral and career pathway strategies for many reasons, not least of which is that they have already established critical operating relationships among funders and providers and have also gained traction with employers and industry groups in these same communities.

The NFWS has engaged over 4,500 employers in 90 sector partnerships, serving nearly 55,000 individuals, to whom over 37,000 degrees and credentials were awarded between 2008 and 2013. More than 500 regional and local funders have contributed approximately \$200 million in matching funds. The sector partnerships supported by the NFWS often include organized labor, WIBs, CBOs, and educational institutions, with some partnerships consisting solely of a labor-management partnership.

### **Labor/management partnerships**

Several longstanding sector partnerships are labor/management partnerships. The American Federation of State, County and Municipal Employees (AFSCME) District 1199c's Training and Upgrading Fund in Philadelphia works with several area employers to train over 2,000 health care workers per year. Service Employees International Union Local 615's Voice and Future Fund works with a range of Boston firms and universities to create career ladders for custodial workers. WRTP has, since 1997, received funding from private foundations, state agencies, USDOL, and numerous others to work with unions and employers to, among myriad other investments, create registered building trade and manufacturing apprenticeship programs in the Milwaukee area.

### **Southwest Industrial Areas Foundation**

As noted earlier, the SWIAF was one of the pioneer organizations in the sectoral arena, launching Project QUEST in the early 1990s and then seeding spinoff projects in communities all across the South and Southwest, including Capital IDEA in Austin and Houston, ARRIBA in El Paso, and VIDA in the Lower Rio Grande Valley, as well as efforts in Arizona, Arkansas, Iowa, and Louisiana. Each of these efforts has a somewhat different focus and base of operations tailored to the needs and priorities of the local Industrial Areas Foundation (IAF) affiliate organizations. They also have a critically important feature: political organization and clout emanating from the local community and the ability to mobilize strong support for their efforts from a wide base of governmental and philanthropic sources (see Glover et al. [2010]). IAF groups have also pushed state legislative initiatives that foster the spread of sectoral strategies as they have done in Texas with state funding. For example, House Bill 437, which was advocated by the Network of Texas IAF organizations, was signed into law by Texas Governor Rick Perry and was designed to fill high-demand, high-wage jobs in Texas.<sup>11</sup> House Bill 437 will move the successful Jobs and Education Training Program's Launchpad Fund to a new college home as the Texas Innovative Adult Career Education Grant Fund. The legislature also budgeted \$5 million for the fund to invest in high-skill training over the next two years. This is a model that likely can be replicated in other states.

### **National Network of Sector Partners**

As noted earlier, the National Network of Sector Partners (NNSP) has operated as a major support group for sectoral strategies since 1999. The fact that the NNSP operates with a mix of philanthropic funding plus member dues gives it staying power that some other efforts may lack. Member dues reflect a level of commitment to sectoral strategies that can be leveraged for other support over time. Additionally, NNSP partners are members of the sectoral strategies “choir,” which reaches out to others with a credibility that is important for sustainability.

### **Alliance for Quality Career Pathways**

The Alliance, a collaboration among the Center for Law and Social Policy, the Joyce Foundation, the Corporation for a Skilled Workforce, and others, also represents a real opportunity for sustaining and scaling effective workforce services built around career pathway strategies. The collaborators all are recognized leaders in this area and have chosen to focus on quality services and relationships, as well as metrics for measuring service provision and its outcomes and impacts over time.

### **State policy support**

A number of states have provided continuing support for sectoral and career pathway strategies over time. Some of these are noted below. In addition, the overwhelming majority of states have training funds that have been created from UI tax diversions, or in some cases state general revenues; these may provide a mechanism for scaling these strategies as well.

### **Commonwealth Corporation**

The Commonwealth Corporation in Massachusetts may well be the earliest of sectoral strategy initiatives, having gotten into the field in the early 1980s. As a quasi-public entity, it provides an excellent example of consistent bipartisan state support for sector strategies that could be replicated in other states.

### **Washington State skills panels**

Washington embedded support for sectoral strategies in state policy starting in 1990 and has continued to foster sectorally based skills panels in regions across the state to the present.<sup>12</sup> Washington's skills panels encompass a wide variety of industry sectors, ranging from the wine industry in Walla Walla in the southwestern corner of the state to interactive media in Seattle to advanced manufacturing and clean energy in a multistate region. The second generation of its skills panels was launched as the High Skills, High Wages Fund in 2008.<sup>13</sup>

### **Texas initiatives**

As noted above, Texas has supported sectoral and broader cluster-based strategies through a series of executive and legislative initiatives for over a decade, only in part due to the urging of the IAF and its affiliates. The Texas workforce system has emphasized training for jobs in growth occupations and industry sectors, at least since passage of state workforce reform legislation in mid-1995, but it has also continued such a focus with the governor's 2005 Texas Industry Cluster Initiative stressing support for economic and workforce development in Advanced Technologies and Manufacturing, Aerospace and Defense, Biotechnology and Life Sciences, Information and Computer Technology, Petroleum Refining and Chemical Products, and Energy. It is also noteworthy that the Texas Association of Workforce Boards recently put forth a set of recommendations supporting career pathways models for education and workforce development in the state (Texas Association of Workforce Boards 2014).

### **State training funds**

State training funds are an as-yet underutilized source of support for sectoral and career pathway strategies, although greater attention has been focused on them in recent years (for example, see King and Smith [2007]). Whether funded from diverted UI taxes or state general revenues, such funds now operate in more than 40 states and often fund skills training in growth sectors via community and technical colleges in partnership with employers or industry groups. Political support for these funds appears to be robust and is particularly strong within the business community. Aligning these funds more closely with sectoral

and career pathway strategies should be relatively easy as policy initiatives go.

The Workforce Innovation Opportunities Act of 2014 raises the profile and standing of sectoral and career pathway strategies considerably, but it remains to be seen whether USDOL will be able to go beyond mere encouragement to actually incentivize the adoption of such strategies by states and LWIBs as part of a more concerted national policy. To its credit, USDOL has contracted with several organizations to begin providing technical assistance to states and local boards to foster more widespread adoption of these strategies.<sup>14</sup>

Key provisions of the Workforce Innovation Opportunities Act regarding sectoral and career pathway strategies include the following:

- elimination of WIA's sequence of services, combining the formerly core and intensive services into a career services category, in which career pathways and sector-based training programs are encouraged;
- requirement of workforce boards to promote proven promising practices, including the establishment of industry or sector partnerships; and
- promotion of integrated or contextualized Adult Basic Education, English as a Second Language, and occupational training.

## **RECOMMENDATIONS AND CONCLUDING OBSERVATIONS**

There is clearly a significant and growing body of solid practice in the sector-based and career pathways fields. Adages such as necessity being the mother of invention, or about the mind-concentrating effects of being hanged in a fortnight, certainly apply when it comes to innovation in the workforce development field over the past few decades. Faced with the need to educate, train, or “upskill” the workforce, whether so workers can advance or so employers can remain competitive (or, ideally, both), programmers and policymakers have developed an array of practices to address the demand for higher-order skills.

However, sector-based strategies and career pathways, while innovative and often effective, speak to the absence of a coherent, adequately

supported national system for ensuring that workers receive the assistance needed to advance in the labor market, and employers are assured that they will have access to a workforce with the skills required to make them competitive.

And while valid arguments could once be made that national competitiveness depended on the education and skills of the workforce, it is difficult to square the tepid investments in workforce development over the past 20 years with the fact that, on average, U.S. economic growth has outpaced the OECD average since the first quarter of 2012, suggesting that the economy has found a way to return to competitiveness postrecession despite underinvestment in its human capital.

This may have been achieved by the shift, predicted by many, toward a smaller, more technically skilled and higher-educated workforce than was required in the past. Technological advances and the offshoring of lower-skilled manufacturing jobs may have translated into structural changes in the labor market not easily remedied by improvements, no matter how innovative, in workforce development programming.

Still, labor shortages in key sectors of the economy persist and, according to some industry leaders, will only get worse in the near future.<sup>15</sup> This suggests that, despite structural changes in the economy, scaling up effective sector-based and career pathways strategies will likely be necessary if the economy is to remain competitive. Few would argue that the country's current high school and postsecondary completion rates are adequate for either a competitive economy or the upward mobility of the workforce.<sup>16</sup>

Moreover, many would likely agree that, for too long, private foundations have carried a disproportionate burden for investing in innovation in workforce development. Bringing these strategies to scale will require a renewed commitment from federal and state government to raise revenue (i.e., reverse the tax cuts handed to the wealthy over the past 30 years) and invest it in programs designed to lift the poor out of poverty and equip them with the education and skills required to live a fulfilling and self-determined life. While politically unpopular, these steps are the minimum necessary to narrow the widening gap between the wealthy and the rest, and to give credibility to legislators' claims that the United States is a country in which prosperity is broadly shared.

In addition, and even less politically popular than either raising taxes or investing in the social safety net, there is the reversal of poli-

cies that have undercut organized labor's ability to represent workers. It should be noted that the education and training that career pathways provides have been an integral part of the apprenticeship system for many decades, and the employer engagement and aggregation of training needs typical of the better sector-based programs have been part and parcel of organized labor's relationship with industry. It should also be noted that those OECD countries that have consistently vied with the United States as most economically competitive, such as Germany, or are currently emerging out of the recession at a faster pace, such as Australia and Korea, rely heavily on good working relationships between labor and industry. Attempting to re-create and bring to scale strategies that have long been a part of a labor contract without organized labor will subject them to politically driven budgeting decisions, rather than decisions about what is best for workers and industry.

Rigorous evaluations have documented that career pathways and sector-based programs can be effective strategies for providing workers with the education and skills required to succeed in the labor market, and for providing employers with a workforce that can keep them competitive. Scaling up these practices is essential to creating the workforce development system of the twenty-first century, but this can be accomplished only if these practices are part of a more comprehensive commitment to workforce development that includes a significantly larger investment on the part of government and, ideally, representation of workers' interests by organized labor.

## Notes

1. For more on the Commonwealth Corporation, see <http://www.commcorp.org> (accessed January 25, 2015).
2. Information about Project QUEST can be found at <http://www.questsa.org> (accessed January 25, 2015).
3. More information about WRTP/BIG Step is at <http://www.wrtp.org> (accessed January 25, 2015).
4. More information about and reports from the JOBS Initiative are provided at <http://www.aecf.org/MajorInitiatives/CenterforFamilyEconomicSuccess/TheJobsInitiative.aspx> (accessed January 25, 2015).
5. For more information about NNSP, see <http://www.insightccd.org/communities/nns.html> (accessed January 25, 2015).

6. Washington State's Skills Panels are described more fully at <http://www.wtb.wa.gov/IndustrySkillPanel.asp> (accessed January 25, 2015).
7. See <http://www.sectorstrategies.org/accelerating-state-adoption-sector-strategies> (accessed January 23, 2015).
8. These data are based on a survey report published by the National Network of Sector Partners (Mangatt 2010).
9. Indiana participated only in the initial stages of the Shifting Gears Initiative.
10. This section draws, in part, on the extended discussion in King (2014).
11. For more information, see <http://www.ntotx.org/home/nto-applauds-governor-perry-for-5-million-investment-in-jobs> (accessed January 25, 2015).
12. See <http://www.wtb.wa.gov/IndustrySkillPanel.asp> (accessed January 25, 2015).
13. Much more information on the latest generation of skills panels can be found at <http://www.wtb.wa.gov/HSHWStrategicFund.asp> (accessed January 25, 2015).
14. Maher and Maher, a New Jersey-based human resources consulting firm, is working with Jobs for the Future, the Ray Marshall Center, and others on this effort.
15. Boeing Airlines Vice President of Human Resources, Alan May, announced at the annual National Fund for Workforce Solutions conference in Chicago on June 27, 2014, that approximately 50 percent of Boeing's workforce was within five years of retirement age.
16. For example, see OECD (2013) and Crellin, Kelly, and Prince (2012).

## References

- Allssid, Julian L., Melissa Goldberg, and Sarah M. Klerk. 2010. *Building a Higher Skilled Workforce: Results and Implications from the BridgeConnect National Survey*. Barrington, RI: Workforce Strategy Center.
- Andersson, Frederick, Harry J. Holzer, and Julia I. Lane. 2005. *Moving Up or Moving On: Who Advances in the Low-Wage Labor Market?* New York: Russell Sage.
- Barnow, Burt S., and Richard Hobbie, eds. 2013. *The American Recovery and Reinvestment Act: The Role of Workforce Programs*. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Barnow, Burt S., and Christopher T. King. 2005. *The Workforce Investment Act in Eight States*. Albany, NY: Nelson A. Rockefeller Institute of Government. <http://doleta.gov/reports/searcheta/occ> (accessed November 19, 2014).
- Bradach, J. 2003. "Going to Scale: The Challenge of Replicating Social Programs." *Stanford Social Innovation Review* 1: 18–25.
- Brown, Clair, John Haltiwanger, and Julia I. Lane. 2006. *Economic Turbulence: Is a Volatile Economy Good for America?* Chicago: University of Chicago Press.
- Campbell, Brett. 1994. *Investing in People: The Story of Project QUEST*. San

- Antonio, TX: Communities Organized for Public Service (COPS) and Metro Alliance. <http://www.cpn.org/topics/work/quest1-2.html#ch1> (accessed December 12, 2013).
- Center for Postsecondary and Economic Success at CLASP. 2013. "A Framework for Measuring Career Pathways Innovation: A Working Paper." Washington, DC: Center for Law and Social Policy.
- Crellin, Matt, Patrick Kelley, and Heath J. Prince. 2012. "Increasing College Attainment in the United States: Variations in Returns to States and Their Residents." *Change: The Magazine of Higher Learning* 44(4): 35–41.
- Deaton, Brian, and Robert McPherson. 1991. *Design of Project QUEST*. Austin, TX: Center for the Study of Human Resources, University of Texas at Austin.
- Eberts, Randall W., and Stephen A. Wandner. 2013. "Data Analysis of the Implementation of the Recovery Act Workforce Development and Unemployment Insurance Provisions." In *The American Recovery and Reinvestment Act: The Role of Workforce Programs*, Burt S. Barnow and Richard A. Hobbie, eds. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 267–307.
- Giloth, Robert P., ed. 2004. *Workforce Intermediaries for the Twenty-First Century*. Philadelphia: Temple University Press.
- Glover, Robert W., and Christopher T. King. 2010. "The Promise of Sectoral Approaches to Workforce Development: Towards More Effective, Active Labor Market Policies in the United States." In *Human Resource Economics: Essays in Honor of Vernon M. Briggs, Jr.*, Charles J. Whalen, ed. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 215–251.
- Glover, Robert W., Tara Carter Smith, Christopher T. King, and Rheagan Coffey. 2010. *CareerAdvance®: A Dual-Generation Antipoverty Strategy, An Implementation Study of the Initial Pilot Cohort July 2009 through June 2010*. Austin, TX: Ray Marshall Center for the Study of Human Resources, Lyndon B. Johnson School of Public Affairs, University of Texas at Austin.
- Hamilton, Gayle. 2002. *Moving People from Welfare to Work: Lessons from the National Evaluation of Welfare-to-Work Strategies*. New York: MDRC.
- Holzer, Harry J., Julia I. Lane, David B. Rosenblum, and Frederick Andersson. 2011. *Where Are All the Good Jobs Going? What National and Local Job Quality and Dynamics Mean for U.S. Workers*. New York: Russell Sage.
- Jenkins, Davis. 2006. *CAREER PATHWAYS: Aligning Public Resources to Support Individual and Regional Economic Advancement in the Knowledge Economy*. Barrington, RI: Workforce Strategy Center.
- Jobs for the Future. 2010. *The Breaking Through Practice Guide*. Boston: Jobs for the Future.
- King, Christopher T. 2004. "The Effectiveness of Publicly Financed Train-

- ing in the United States: Implications for WIA and Related Programs.” In *Job Training Policy in the United States*, Christopher J. O’Leary, Robert A. Straits, and Stephen A. Wandner, eds. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 57–100.
- . 2014. “Sectoral Workforce and Related Strategies: What We Know ... and What We Need to Know.” In *Connecting People to Work: Workforce Intermediaries and Sector Strategies*, Maureen Conway and Robert P. Giloth, eds. New York: American Assembly Press, pp. 209–238.
- King, Christopher T., and Carolyn Heinrich. 2011. “Does Workforce Development Work?” Paper presented to the APPAM Research Conference, held in Washington, DC, November 3–5.
- King, Christopher T., and Tara Carter Smith. 2007. “State Unemployment Insurance-Supported Training Funds.” In *Strategies for Financing Workforce Intermediaries: Working Papers*, Heath Prince, ed. Boston: Jobs for the Future/National Fund for Workforce Solutions, pp. 69–122.
- Maguire, Sheila, Joshua Freely, Carol Clymer, Maureen Conway, and Deena Schwartz. 2010. *Tuning in to Local Labor Markets: Findings from the Sectoral Employment Impact Study*. Philadelphia: Public/Private Ventures.
- Mangatt, Rivinder. 2010. “Sector Snapshot: A Profile of Sector Initiatives, 2010.” Oakland, CA: National Network of Sector Partnerships, Insight Center for Community Economic Development.
- Mikelson, Kelly S., and Demetra Smith Nightingale. 2004. *Estimating Public and Private Expenditures on Occupational Training in the United States*. Washington, DC: U.S. Department of Labor.
- Miller, Cynthia, Johannes M. Bos, Kristin E. Porter, Fannie M. Tseng, and Yasuyo Abe. 2005. *The Challenge of Repeating Success in a Changing World: Final Report on the Center for Employment Training Replication Sites*. New York: MDRC.
- National Commission on Adult Literacy. 2008. *Reach Higher: Overcoming Crisis in the U.S. Workforce*. New York: National Commission on Adult Literacy.
- NGA Center for Best Practices, National Network of Sector Partners, and Corporation for a Skilled Workforce. 2008. *Accelerating State Adoption of Sector Strategies: An Eleven-State Project to Promote Regional Solutions to Worker and Employer Needs, Phase I Project Report*. Washington, DC: NGA Center for Best Practices, National Network of Sector Partners, and Corporation for a Skilled Workforce.
- Organisation for Economic Co-operation and Development. 2013. *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*. Paris: OECD.

- Orr, Larry L., Howard S. Bloom, Stephen H. Bell, Fred Doolittle, and Winston Lin. 1996. *Does Training for the Disadvantaged Work? Evidence from the National JTPA Study*. Washington, DC: Urban Institute Press.
- Roder, Anne, and Mark Elliott. 2011. *A Promising Start: Year Up's Initial Impacts on Low-Income Young Adults' Careers*. New York: Economic Mobility Corporation.
- . 2014. *SUSTAINED GAINS: Year Up's Continued Impacts on Young Adults' Earnings*. New York: Economic Mobility Corporation. May.
- Smith, Tara Carter, and Christopher T. King. 2011. *Exploratory Return-on-Investment Analysis of Local Workforce Investments*. Austin, TX: Ray Marshall Center for the Study of Human Resources, Lyndon B. Johnson School of Public Affairs, University of Texas at Austin.
- Smith, Tara C., Christopher T. King, and Daniel G. Schroeder. 2012. *Local Investments in Workforce Development: 2012 Evaluation Update*. Austin, TX: Ray Marshall Center for the Study of Human Resources, Lyndon B. Johnson School of Public Affairs, University of Texas at Austin.
- Strawn, Julie. 2010. *Shifting Gears: State Innovation to Advance Workers and the Economy in the Midwest*. Chicago: Joyce Foundation.
- . 2011. *Farther, Faster: Six Promising Programs Show How Career Pathways Bridges Help Basic Skills Students Earn Credentials That Matter*. Washington, DC: Center for Law and Social Policy, Center for Postsecondary and Economic Success.
- Texas Association of Workforce Boards. 2014. *The Workforce in Texas: Aligning Education to Meet the Needs of Texas Employers*. Dallas: Texas Association of Workforce Boards.
- Zeidenberg, Matthew, Sung-Woo Cho, and Davis Jenkins. 2010. "Washington State's Integrated Basic Education and Skills Training Program (I-BEST): New Evidence of Effectiveness." CCRC Working Paper No. 20. New York: Community College Research Center, Teachers College, Columbia University.



# 9

## **Employer Involvement in Workforce Programs**

### **What Do We Know?**

Burt S. Barnow  
*George Washington University*

Shayne Spaulding  
*Urban Institute*

Over the last several decades, policymakers and funders have increasingly expected local workforce systems and programs to make the engagement and involvement of employers a priority. In a field where the primary goal is to place people in jobs, one might think the engagement of the employers that will hire job-seeker customers would be a fundamental practice. However, the workforce system and workforce training programs have not always prioritized employer engagement, and workforce systems and organizations still struggle with how to effectively involve employers.

The main reason workforce organizations engage employers is to help program customers achieve success in the labor market by ensuring that job seekers possess the skills required by employers, and/or by helping them make the connections to available job opportunities through the relationships built with employers. While employers may use workforce organizations for reasons of corporate social responsibility, the most successful partnerships emerge because of the important functions that workforce organizations can serve for employers. They can help employers recruit and screen qualified applicants for available positions and provide training for potential applicants and incumbent workers. These activities can not only help employers with their human resources needs, they can also help them offset the cost of training and recruitment.

In this chapter, we explore the history of employer involvement in workforce programs in the United States, the different models of employer engagement, and what is known about the effectiveness of such efforts. We discuss why organizations and workforce systems struggle to engage employers, what can be learned from their experiences, and possible strategies for encouraging deeper connections with employers in order to improve outcomes for those who participate in workforce training programs.

### **WHAT DO WE MEAN BY EMPLOYER ENGAGEMENT?**

Employers can play a variety of roles in the preparation of the workforce. Primarily, they provide training to the workers in their own firms or organizations either directly or through contracts with external training providers. Research has shown that the majority of employers provide training to their workers, whether through informal training, formal training, or tuition reimbursement (Lerman, McKernan, and Riegg 2004; Mikelson and Nightingale 2004). While the federal government currently does not collect data on employer investments in training, findings from several industry surveys indicate that employer investments in training dwarf public workforce system resources for job training, even in the context of projected increases under the new Workforce Innovation and Opportunity Act (WIOA), which authorizes about \$3 billion for Adult, Youth, and Dislocated Worker programs for fiscal year 2016. One study estimates that employers spend between \$46 and \$54 billion annually on education and training (Mikelson and Nightingale 2004). When the costs of trainee wages and administrative costs are removed and only direct training costs are considered (trainer salaries, books, materials, etc.), the amount that employers spend on training is much lower: between \$8 billion and \$17 billion per year, but still much larger than the resources available for training through the workforce system. The Association for Talent Development (2013; formerly the American Society for Training and Development) estimates employer expenditures to be much higher—\$164.2 billion in 2012.<sup>1</sup>

This chapter focuses on programs that are financed by government or philanthropies and aimed at serving the disadvantaged, as opposed

to staff development and training efforts targeted at incumbent workers that are led and paid for by employers. We are interested in efforts by state and local workforce systems and training providers to involve employers in the management (through boards), design, and delivery of workforce programs, and in the hiring of program graduates and other entry-level workers who are served by workforce systems and programs. We are also interested in understanding the most robust forms of employer engagement where workforce organizations don't simply involve employers in training efforts, but treat them as clients, as is found in both customized and sectoral training.

While there are a variety of ways that workforce organizations engage employers, we do not review the evidence of all possible employer engagement strategies. Rather, we focus on some key examples of employer engagement to see what can be learned. For example, we do not discuss apprenticeship models, where apprentices participate in classroom-based and work-based learning programs that are designed through collaborations of employers and educational institutions. Nor do we examine the evidence for other strategies that involve other types of learning at the workplace (internships, externships, clinical experiences). We also do not explore the engagement of employers in community college programs, because evidence is limited; however, recent investments in building the capacity of community colleges to respond to employer needs may add to what we know about the effectiveness of employer engagement strategies. Finally, we do not explore the research on what is known about state-funded customized training programs.<sup>2</sup>

### **Employer Engagement in Federal Workforce Policy and Programs**

The involvement of employers became more central to federal workforce policy with enactment of the Job Training Partnership Act (JTPA, 1982), which required majority participation of employers in local advisory committees called Private Industry Councils (PICs), as state and local governments were given increased discretion over the operation of federally funded workforce programs. While local advisory councils existed under the 1973 Comprehensive Employment and Training Act (CETA), the prior law governing workforce programs, they did not become part of federal policy until 1978, and even then they

were perceived as weak by employers (Guttman 1983).<sup>3</sup> JTPA required that the majority of local councils consist of private industry representatives. Unlike CETA, in which local councils had very little power, PICs were described in the JTPA legislation as “equal partners” in the administration of local workforce programs (Guttman 1983). Despite JTPA calling for expanded involvement of employers, employer involvement was still largely limited, with the exception of efforts in a few local areas, and even those with strong linkages to employers did not demonstrate stronger performance (Bailey 1988).

WIA replaced JTPA and carved out a stronger role for employers in the workforce system by giving local boards, renamed Workforce Investment Boards (WIBs), the authority to *set* local policy. WIA was similar to JTPA in that it required majority representation from the business community, but the law for the first time recognized employers as customers of the workforce system. Despite success in some state and local areas in engaging employers in the local workforce system, evaluations have shown that employers still do not play a strong role in the administration of local workforce systems, as we discuss later in this chapter.

Most recently, the Workforce Innovation and Opportunity Act (WIOA) was signed into law in 2014, replacing WIA. The new statute leaves many of the core elements of WIA, aiming to organize multiple programs and funding streams under a single piece of legislation, but it includes an even stronger emphasis on employer involvement across these programs, including new employer engagement requirements in state and local plans, new performance metrics related to employer engagement, encouragement that states and local areas adopt sector- or industry-based strategies, higher allowable reimbursement rates for on-the-job training, and changes to employer contribution requirements for customized training programs. The extent to which the new law reflects a marked change in how the workforce system works with employers will be determined, in part, by the new regulations and how they are implemented. At the writing of this chapter, regulations related to WIOA were still being drafted with final rules slated to go into effect in 2016.

Under WIOA, WIBs and American Job Centers (formerly One-Stop Career Centers) remain at the center of service delivery, with a constellation of other public and private providers playing important roles

at the local level. Public agencies involved in local service delivery include the Employment Service (sometimes referred to as the Job Service), which provides labor exchange services for job seekers, including individuals receiving Unemployment Insurance benefits; state and local agencies administering the Temporary Assistance for Needy Families (TANF) program, which provides poor families with children time-limited cash benefits, workforce preparation, and job placement; and local community college systems, which offer job training through both non-credit and for-credit programs.<sup>4</sup> Little is known about the involvement of employers in these programs. While the Employment Service has some involvement of employers in local oversight, federal TANF law does not emphasize employer involvement, and the level of employer engagement varies in community college programs. Where these actors are strong partners in the WIB or American Job Center delivery system, they may benefit from the employer engagement activities of WIBs.

Through the evolution of federal workforce policy, delivery of education and training services has increasingly devolved from the responsibility of government agencies to an array of local providers, including faith-based and community-based organizations, community colleges, for-profit colleges, and proprietary schools. While it remains to be seen how new employer engagement requirements under WIOA will affect the way these entities do business, in recent years the federal government, many local governments, and private foundations have sought to encourage employer engagement by grantees. For example, the U.S. Department of Labor (USDOL) has issued a number of competitive grant solicitations with an emphasis on “demand-driven” strategies, which refers to the practice of workforce organizations responding to issues of employer demand as opposed to job-seeker “supply.” Other federal agencies have also placed an emphasis on employer involvement. For example, the U.S. Department of Health and Human Services requires consultations with employers as part of its Health Profession Opportunity Grants, which aim to improve opportunities for TANF recipients and other low-income individuals in accessing available jobs in the health care sector. Several foundation-funded demonstration projects and other large-scale, privately funded national initiatives have also sought to encourage workforce training providers and local systems to more effectively engage employers. Table 9.1 shows some examples of publicly and privately funded national efforts.

**Table 9.1 Employer Engagement in National Initiatives**

Initiative name	Funder	Grantees	Program description	Employer engagement description
High Growth Job Training Initiative (2001–2007)	USDOL	Wide range of organizations, including industry associations, community colleges, non-profit organizations, state workforce organizations, and other entities	Aimed at preparing workers for opportunities in selected sectors defined by high demand and emerging skills needs, influenced by technological change	Aimed at creating market-driven, strategic partnerships among private industry, education institutions, and the workforce investment system
Community-Based Job Training Grants (2005–2009)	USDOL	Community and technical colleges	Designed to support workforce training for high-growth/high-demand industries and capacity building for community and technical colleges	Required active engagement of employers in the project, participation in grant activities, including: Defining the program strategy and goals; identifying needed skills and competencies; designing training approaches and curricula; implementing the program; contributing financial support; and, where appropriate, hiring qualified training graduates
Workforce Innovation in Regional Economic Development (WIRED) grants (2006–2008)	USDOL	State governors overseeing regional partnerships	Regional effort to increase employment and advancement opportunities to a broad population of workers and create high-skill, high-wage jobs	Employer representation and effort to link economic development and workforce development activities

Trade Adjustment Assistance Community College Career Training Grants (2012–2015)	USDOL	Community colleges and other institutions of higher education	Provides funds to expand and improve ability to deliver education and career training programs that can be completed in two years or less and are in high demand.	Required engagement of employers, local industry associations, and/or national industry associations as partners.
Health Profession Opportunity Grants	HHS	States, local WIBs, institutions of higher education and Indian tribes and tribal organizations	Provides education and training to TANF recipients and other low-income individuals for occupations in the health care field that pay well and are expected to either experience labor shortages or be in high demand	Participants must earn employer- or industry-recognized certificates, based on consultations with employers
Casey Jobs Initiative	Annie E. Casey Foundation	Workforce intermediaries (see description in text)	Effort in six cities to connect inner-city young men and women to family-supporting jobs in the regional economy and to improve the way urban labor market systems work for low-income, low-skilled workers	Funded workforce intermediaries expected to treat employers as customers equal to job seekers
National Fund for Workforce Solutions	Multiple national and local funders	Local funding collaboratives	National funders support local communities to organize and sustain regional funding collaboratives that invest in worker skills and their key regional industries	Goal is to develop employer-driven workforce strategies to help low-wage workers and job seekers obtain career opportunities, while creating talent supply chains that close skills gaps and strengthen local economies

A third type of entity that has emerged in recent years is the “workforce intermediary” aimed at bridging the gap between employers that demand trained workers and the training organizations that “supply” them. Workforce intermediaries are defined less by organizational form—WIBs, labor unions, and nonprofit organizations can all be workforce intermediaries—than by a set of common characteristics. As described by Giloth (2004), workforce intermediaries convene local stakeholders for the purpose of creating advancement opportunities for low-wage workers. In addition, workforce intermediaries

- take a dual customer approach (workers and employers);
- go beyond job matching (supporting curriculum development, identifying appropriate training providers);
- act as integrators of workforce funding, programs, and information;
- are generators of ideas and innovations; and
- are not single-purpose or single-function organizations.

The idea is that it is difficult for training providers that are driven primarily by the mission to serve the disadvantaged to build relationships with the for-profit sector because they do not understand industry needs, do not speak the language of employers, and may not be positioned to respond to the breadth of employer needs with respect to training. Intermediaries who broker relationships with a variety of employers and providers in a local area may be able to identify the best organization to respond to a particular employer need and can help avoid the issue of single employers being approached by multiple training providers within the workforce system.

## **FORMS OF EMPLOYER ENGAGEMENT**

### **Employer Engagement Strategies**

Workforce organizations use a variety of strategies to engage employers for the purpose of improving job seeker outcomes. We divide these strategies into four categories to characterize the types of employer

engagement: 1) program management and oversight, 2) program design, 3) delivery, and 4) hiring.

### **Program management and oversight**

Employers can be engaged in the management of programs. Participation in oversight or advisory boards offers one opportunity to engage employers in the management of programs. While it is a requirement under both WIA and WIOA that employers make up the majority of state and local WIBs, training providers and intermediaries may also seek employer involvement on their oversight boards. Many vocationally focused community college departments, for example, require employer advisory boards. Employers can also participate in college or university-wide boards or councils, which are aimed at building a connection between the educational institution and the community.

### **Program design**

Governing boards may fill general oversight functions, but they also can play a role in program design and development. Boards may give employers the opportunity to provide feedback on the types of programs that should be offered by an organization or in a local community, or feedback on the content of curricula used to train participants. Employers who are not board members can be engaged in the development of programs and curricula. The input that employers provide on the design of training programs can include information on the required technical and soft skills, the appropriate length of training, the credentials recognized by employers, and common challenges experienced by the employer with the current workforce in the targeted position. Employers can provide feedback on eligibility requirements, screening tools, curricula, assessment tools, textbooks, and other classroom materials. They can also provide advice about the value that work experience—through workplace simulations, internships, or clinical experiences—will play in the employability of program graduates. In programs that involve customized training for incumbent workers or on-the-job training, employers are more directly responsible for the oversight and development of training.

### **Program delivery**

Employers can also be engaged in the delivery of training programs. Clymer (2003) noted that it is important to “make employers part of the woodwork” as the general approach to employer engagement. Involvement in the day-to-day operations of training programs can include the following:

- participating in decisions about who is accepted into the program;
- participating as instructors or guest presenters in training;
- hosting work experience opportunities (apprenticeships, internships, clinical experiences) at the work site;
- providing opportunities for mentorship, job shadowing, or other exposure to the workplace;
- helping students prepare for job search (resume review, mock interviews, etc.); and
- volunteering for the program in other ways.

The level of involvement by employers will likely reflect some combination of the employers’ need for trained workers; their confidence in an organization’s ability to give them what they need (including, perhaps, an advantage in competing for trained workers in a labor market for in-demand workers); and a sense of civic responsibility.

### **Hiring**

Programs involve employers in hiring in a number of ways, including through the job development efforts of training organizations and through wage subsidy programs that aim to encourage employers to hire participants by offsetting all or a portion of a hired worker’s wages. While there have been many attempts to get employer partners to contractually agree or commit to hire program graduates, these have not typically been successful because employers do not want to be legally bound to hire individuals who have not been screened for their qualifications and suitability for open positions. Depending on the length of a particular training, the employer’s needs might change by the time an individual has completed the program. Furthermore, employers want the opportunity to consider other potential candidates so as to

ensure they hire the most qualified and best-suited applicants for the job. Instead, if agreements are made, they often take the form of giving program graduates first priority in hiring decisions. Community benefit agreements are sometimes structured to require businesses locating in particular areas to hire from those communities, but the requirements are usually that a portion of hires comes from a particular community or organization (Gross 2008).

Workforce organizations seek to build relationships with employers in the management, design, and delivery of a program largely to help ensure that program graduates will meet job requirements and be hired by employers who hire workers with those skills. Workforce systems, training providers, and workforce intermediaries also seek to build relationships with employers to learn about available job opportunities and help program participants—who often lack the social and professional networks—get their “foot in the door.” Relationships with employers are often built by staff members—called job developers, employment specialists, or account managers—or specialized units whose responsibility it is to broker relationships with employers and provide access to jobs. These staff can help employers manage some of the human resource functions of an employer by screening candidates for open positions. Wage subsidies can further offset some of the costs of hiring and training new workers, as is the case with on-the-job training (OJT).

### **Models of Employer Engagement**

While many workforce organizations aim to incorporate one or more of these employer engagement practices into their programs, not all are employer-focused. Organizations vary in the degree to which they view employers as customers and the extent to which they are successful in involving them in programs. Pindus and Isbell (1996), in their review of employer involvement in workforce programs, distinguish employer-based training from employer-centered training. Employer-based training is characterized by employer involvement, whereas employer-centered training emphasizes working directly with firms and treating the firms as clients. Employer-centered training programs can be either customized for a single employer (customized training) or designed to meet the needs of a group of employers within an industry or that employ people in the same occupations (sectoral training).

Because these approaches represent the most robust forms of employer involvement, we describe them in more detail below.

### **Customized training**

Workforce organizations may work with individual firms to provide customized training either for existing workers or to fill a set of open positions within a company or organization. Customized training can aim to provide job-specific skills for new workers or to help incumbent workers retain their jobs or advance. It also can focus on general skills, such as basic education or customer service. Under WIA, employers were required to pay for 50 percent of the costs of training tailored specifically to meet the needs of individual employers and to commit to hiring program graduates.<sup>5</sup> Under WIOA, states and localities are given more flexibility with respect to determining the amounts the employers have to pay, depending on such factors as the size of the employer, number of employees trained, and other factors to be determined by the state or local area. The law requires only that employers pay “a significant portion” of the training costs, while keeping in place the requirement that employers participating in WIOA-funded customized training commit to hire program graduates. In addition to the federal government, many states have implemented customized training programs as a strategy for meeting local employer needs and influencing business location decisions (Duscha and Graves 2006).

### **Sectoral training**

Workforce organizations can also work with groups of employers to try to meet shared needs by operating sectoral programs.<sup>6</sup> Sector-based approaches offer the advantage of scale with more job opportunities being available for participants when working across multiple firms.

Conway et al. (2007) define sectoral strategies as a “systems approach” to workforce development that

- focuses on industry sectors or clusters of occupations;
- intervenes through a credible organization, or group of organizations;
- improves the employment-related skills of workers;
- meets the needs of employers; and

- creates changes in the labor market that sustain benefits to employers.

In several respects, sectoral strategies bear resemblance to the concept of workforce intermediaries, which organize local actors within workforce systems in order to advance low-wage workers.<sup>7</sup> While many sectoral strategies are focused on access to jobs for low-income populations, others simultaneously focus on improving job quality; for example, the Paraprofessional Healthcare Institute in the Bronx operates a training program, social purpose business, and policy center aimed at making improvements for the direct care workforce.

Many workforce organizations—whether they are community-based organizations, community colleges, proprietary schools, or other for-profit or nonprofit service providers—seek to engage employers without offering customized services or managing sectoral initiatives. However, they may play important roles in sector-based programs, offering job readiness, preparation for the General Educational Development (GED) test or other high school equivalency tests, programs to improve English language skills, vocational skills training leading to certificates or degrees, or support services for those enrolled in training. Any of these organizations may see a value in engaging employers in their programs and can play important roles in broader sectoral efforts.

## **THE EFFECTIVENESS OF EMPLOYER INVOLVEMENT**

As we have seen, employer involvement in workforce investment programs can take many forms and can vary in the degree to which employers are the focus of training efforts and the strategies that are used to engage employers. In this section, we review the literature on what is known about the effects of employer involvement. We focus on some key examples of employer engagement that reflect the strategies and models of employer engagement described above. We provide an analysis of what is known about the involvement of employers in governance boards as an example of efforts to engage employers in the management of programs. To explore the evidence around the engagement of employers in the design and delivery of programs and

employer-centered models, we look at two evaluations of sector-based programs. Finally, as an example of employer engagement in hiring, we examine what is known about OJT.

### **Employer Engagement through Workforce Investment Boards**

As already discussed, WIA, like JTPA before it, required state and local boards to include employer representatives as a majority of the membership. Although states and local workforce investment areas complied with the rules, evaluations have shown that employers have typically not played a major role in administering the boards. There were two major evaluations of the implementation of WIA, and both concluded that employers generally do not play a major role in developing policies for local workforce boards. D'Amico et al. (2004, pp. 1–17) conclude, “Local workforce areas are embracing business engagement in principle, but in practice they are lagging in their ability to engage business seriously in strategic planning or serve them as customers with high-quality services.” Similarly, Barnow and King (2005, p. 14) conclude, “It is difficult to measure business involvement in the workforce development system. The impression is that WIA has not yet achieved the strong employer role envisioned by the statute or promoted by the U.S. Department of Labor, although some states and areas have accomplished more in this respect than others.” Barnow and King cite a number of explanations for the failure of boards to play a major role, including the overly large size of the boards, their lack of influence over workforce issues in their areas, the bureaucratic nature of the boards and the programs they administer, and employers’ perceived lack of value added from their involvement. It may be that this perceived failure is one of the factors that led to a stronger focus on employer engagement under WIOA.

D'Amico et al. (2004) and Dunham, Salzman, and Koller (2004) develop lists of successful strategies to engage business in local workforce program planning activities, such as making sure that meetings are short and well organized, arranging for mutual appointments on partner organizations’ boards, and developing sectoral initiatives where economic development and workforce development needs will overlap.

### **Quantitative evaluations of sectoral training programs**

Sectoral training programs are currently highly regarded because they not only get substantial employer input for workforce investment programs, they also help regions and communities focus their activities on sectors of interest. In this section, we review findings from two quantitative evaluations of sectoral programs, the Sectoral Employment Impact Study and Capital IDEA.

**The Sectoral Employment Impact Study.**<sup>8</sup> Although sectoral programs have been popular for a number of years, the first evidence from a large-scale randomized controlled trial came from Maguire et al. (2010) with the release of the Sectoral Employment Impact Study. In this demonstration, three mature sectoral programs were selected by the researchers to implement their programs with randomly selected control groups so that the impact of the programs could be determined. The programs differed significantly in the characteristics of customers served, the industries covered, and the location of the sites.

- **The Wisconsin Regional Training Partnership (WRTP)** is an association of employers and unions, described as a workforce intermediary, that develops short-term training programs (typically two to eight weeks long) to meet the needs of specific employers. For the demonstration, their training programs in the construction, manufacturing, and health care sectors were included.
- **Jewish Vocational Service (JVS)-Boston** is a nonprofit organization. It operates one of Boston's American Job Centers for Workforce Investment Act customers and serves a range of disadvantaged customers, including refugees, immigrants, and welfare recipients. JVS-Boston's training programs in medical billing and accounting were included in the demonstration.
- **Per Scholas** is a New York City organization that combines vocational training with a program to recycle computers and distribute them to low-income individuals. Per Scholas's computer technician training program, which included training for repair and maintenance of computers, printers, and copiers, was included in the demonstration.

All three organizations were described as involving employers in the design of programs by providing input into program offerings or curricula. They also involved employers in the delivery of programs by offering opportunities for participants to gain work experience or asking employers to participate in program activities, such as mock interviews for participants and job fairs.

The participants served in the three programs were screened to make sure they met the programs' normal entry requirements, which included having reading and/or math levels at the 6th to 10th grade or higher. Participants were roughly evenly split between men and women (47 percent men), and most were African American (60 percent) or Latino (21 percent). A majority of the participants were over 24 (70 percent), and roughly one in five (22 percent) had been convicted of a felony. A majority of the participants had a high school diploma (53 percent) or a GED (22 percent), with 18 percent having more than a high school education and 7 percent having less. The participants had not been very successful in the labor market when they applied to the programs. About one-third (34 percent) were employed full or part time at entry, and only 10 percent worked full time for the 12 months prior to entry. Total earnings in the year prior to entry averaged \$9,872.

The programs varied significantly in length and composition. The WRTP program was the shortest, with training lasting between two and eight weeks. Training at Per Scholas was for 15 weeks, and JVS-Boston programs lasted 20–22 weeks. In addition to vocational training, all three programs provided services to improve employability and supportive services. WRTP offered essential skills training, and Per Scholas offered life skills training; these components dealt with issues such as timeliness, attendance, dealing with child care, goal setting, and communication. JVS-Boston and Per Scholas both offered internship programs to give participants work experiences prior to obtaining an actual job.

The study used an experimental design to determine impacts on employment, earnings, and other outcomes of interest. A total of 1,296 individuals who applied to the programs and met the standards set by the programs were randomly assigned to treatment and control groups. Telephone follow-up interviews were conducted between the twenty-fourth and thirtieth month after the baseline survey. The follow-up survey had a 79 percent response rate, with 75 percent for the control

group and 82 percent for the treatment group, yielding 1,014 individuals for the impact analysis.<sup>9</sup>

All three programs in the study were successful at increasing employment and earnings over the 24 months following the baseline survey. Impacts are presented for the entire 24-month follow-up period and for months 13–24. In Table 9.2, we present findings for months 13–24, as this period does not include the in-program period and thus is more likely to reflect gains from the program. For the three sites combined, there are positive, statistically significant gains in employment and earnings for participants. Control group earnings in months 13–24 after random assignment averaged \$13,662, compared to \$17,673 for the treatment group. The gain in earnings of \$4,011 is much larger than is typically observed in evaluations of training programs. The gains result from both increased hours of work and an increase in the wage rate. During months 13–24, the treatment group worked 1,380 hours on average, compared to 1,130 for the control group, for a gain of 250 hours.

All three sites exhibited statistically significant earnings gains for the whole follow-up period, as well as for months 13–24, and the range for those months was fairly narrow. Hours worked also had a consis-

**Table 9.2 Selected Impacts on Annual Earnings for the Sectoral Employment Impact Study for Months 13–24**

Outcome	All sites	Wisconsin Regional Training Partnership	Jewish Vocational Service- Boston	Per Scholas
Total earnings, 24 months (\$)	4,509***	6,255***	4,339**	3,827
Total earnings, months 13–24 (\$)	4,011***	3,735***	4,237***	4,663***
Hours worked, 24 months	245***	241	298*	225
Hours worked, months 13–24	250***	191*	335***	249**
Sample size	985	335	313	337

NOTE: \*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01.

SOURCE: Maguire et al. (2010).

tently positive impact, but the site impacts ranged from 191 hours in WRTP to 335 in JVS-Boston for months 13–24. The researchers also estimated impacts for 10 subgroups, and although the magnitudes varied somewhat by subgroup, the earnings impacts for months 13–24 were all statistically significant. Subgroups analyzed include both sexes, youth (defined two ways), African Americans, formerly incarcerated individuals, individuals who had received welfare, foreign born, and Latinos.

The Sectoral Employment Impact Study (Maguire et al. 2010) provides the strongest evidence currently available that sectoral programs can have a large impact on employment and earnings. The study includes three diverse programs operating in different areas and used rigorous methods. The only aspect of the evaluation that is of concern is that it is not clear how much the strong outcomes stem from the sectoral nature of the programs rather than the fact the programs might simply be exceptional programs. The report does not provide much detail on the sectoral aspects of the programs, although at several points the report notes that the programs have strong ties to employers. Thus, the Sectoral Employment Impact Study shows that good sectoral programs can generate large earnings and employment impacts, but it does not provide a good guide to others for implementing a strong sectoral program.

**Capital IDEA.** Operated by Travis County, Texas, Capital IDEA is a long-term sectoral training program that offers occupational training and extensive support services to low-income residents of the county. It takes a sectoral approach and focuses on occupations with high demand, typically with starting wages of \$16 per hour or higher in health care, information and electronic technologies, utilities, and skilled trades (Smith and King 2011). The program's major focus is nursing and allied health careers, with three-quarters of the participants training in these occupations. It was founded in 1998 by Austin Interfaith to help move Texans stuck in dead-end jobs to higher-paying skilled positions.<sup>10</sup> The Ray Marshall Center at the LBJ School has been evaluating the program since 2006.

The most recent evaluation of Capital IDEA covers 879 individuals who enrolled in Capital IDEA in 2003 and 2004 and were no longer in the program by 2008 (Smith, King, and Schroeder 2011). Outcome variables in the study are quarterly employment, quarterly earnings,

qualifying for unemployment insurance benefits, and whether the person filed an unemployment insurance claim.<sup>11</sup> Program impacts were estimated using a quasi-experimental method using matching (Smith, King, and Schroeder 2011). The comparison group was drawn from individuals from two sources: those who registered to search for work in the state’s Working Texas program and those who received “core” services under WIA. Thus, the counterfactual is not individuals who received no services but rather individuals who received low-intensity services. Matching was performed using weighted multivariate matching, where variables with greater preservice differences between the treatment and comparison groups received greater weight. Matching was done without replacement (i.e., each comparison group member could be included only once), and no calipers were applied to assure that matches were reasonably close.<sup>12</sup> Matching variables included age, race/ethnicity, time elapsed since first earnings, employment status at entry, average quarterly earnings over the four years prior to earnings, percent of time in a workforce development service in the year prior to program entry, prior enrollment in another workforce program (Project RIO), and whether the person was qualified for unemployment insurance at the time of entry. Exact matches were carried out on county of residence, year of program entry, and whether or not the person experienced a dip in earnings of 20 percent or more in the year of program entry.

Impact estimates for employment, earnings, and qualifying for unemployment insurance benefits (which is based on employment and earnings) were large compared to typical training program impact estimates and were statistically significant (see Table 9.3). Quarterly employment was 10.9 percentage points higher for Capital IDEA participants, average quarterly earnings increased by \$1,223, and the proportion qualifying for unemployment insurance benefits increased

**Table 9.3 Impact Estimates for Capital IDEA**

Impact measure	Estimated impact
Quarterly employment (%)	10.9***
Average quarterly earnings (\$)	1,223***
Qualified for unemployment insurance benefits (%)	10.8***

NOTE: \*\*\*p < 0.01.

SOURCE: Smith, King, and Schroeder (2011).

by 10.8 percentage points. Ray Marshall Center researchers also conducted a cost-benefit analysis for Capital IDEA. They found that for participants, the annual rate of return was 73 percent for the first 10 years after enrollment and 74 percent annually for the first 20 years after enrollment. For all of society, they estimated the annual rate of return to be 39 percent for the first 10 years and 43 percent for the first 20 years.

Because the evaluation of Capital IDEA relied on a quasi-experimental design, it necessarily must make fairly strong assumptions. The key issue in most matching-based evaluations is whether the treatment and comparison groups are matched on all relevant variables. Although the researchers matched on a substantial number of variables (at least 16), they did not eliminate matches where the match was not close. Moreover, Capital IDEA is a highly selective program, and a large number of applicants are rejected.<sup>13</sup> It is impossible to know if the comparison group members would have been accepted to the program had they applied. Thus, although the Capital IDEA program appears to have a strong conceptual model and seems successful, we give the specific evaluation results less weight than the findings from the Sectoral Employment Impact Study.

### **OJT in national training programs**

Employer-based training through OJT has been an option in national training programs since the 1960s. In OJT in federally sponsored training, employers hire eligible workers and are reimbursed for the costs of formal and informal training for the new worker during the initial work period. Under WIA, reimbursement was up to 50 percent of the salary and could last for a maximum of six months. WIOA maintains language allowing for reimbursement of up to 50 percent of wages but allows the state or local areas to reimburse employers as much as 75 percent if the training meets certain conditions elaborated in the law. Evaluations of OJT programs typically find OJT to be at least as effective as classroom training and other options. Unfortunately, none of the major evaluations are based on randomized controlled trials where OJT is randomly assigned, so we provide evidence from evaluations of CETA and the JTPA.<sup>14</sup>

The CETA program was the nation's major employment and training program from 1975 through 1983, when it was replaced by JTPA.

Although the CETA program operated over 40 years ago, OJT has not changed significantly since then. The most common approach to developing comparison groups, propensity score matching, had not yet been developed when the CETA evaluations were carried out, so impact estimates used matching on individual variables and regression analysis to estimate treatment impacts. The USDOL made the data gathered for evaluating the program widely available and supported several evaluations; some researchers obtained research support from other sources. As explained below, the more recent program, JTPA, did not estimate the impact of receiving OJT, so the CETA estimates are the most recent estimates of OJT impacts from a national impact study.

USDOL created the Continuous Longitudinal Manpower Survey (CLMS) to evaluate CETA. Each quarter beginning in 1975, a nationally representative sample of CETA participants was selected and interviewed, and Social Security earnings data for subsequent years was linked to the CETA data. A comparison group database was created by linking Social Security earnings data to data from the March Current Population Survey (CPS) sample. The USDOL evaluation contractor, Westat, then selected comparison groups by matching individuals in the CPS sample to the CETA database. USDOL later made the CLMS data available to other researchers, including several groups who responded to a request for proposals asking for alternative approaches for evaluating CETA. Barnow (1987) summarizes the findings from 11 studies by activity and demographic group. Table 9.4 lists the estimates of OJT impacts from the various studies. Although there are a few negative impact estimates for some specific demographic groups, they are never statistically significant. Most of the impact estimates are in the \$500–\$1,000 range, and most are statistically significant. In 2014 dollars, these are roughly equivalent to \$1,800–\$3,600 impacts.<sup>15</sup> OJT and public service employment most commonly had the largest impacts on earnings, with somewhat smaller impacts for classroom training, and impacts close to zero for work experience programs.

The National JTPA Study used random assignment in 16 local programs across the nation to evaluate the JTPA program, and the study is summarized in Bloom et al. (1997). The National JTPA Study researchers conducted random assignment after the local programs had decided whom they wished to serve and the appropriate service strategy for them. The researchers found that program officials identified applicants

**Table 9.4 The Impact of CETA On-the-Job Training on Annual Earnings for Various Groups**

	Overall	White women	White men	Minority women	Minority men	Women	Men
Westat (1981)	850*	550*	750*	1,200*	1,150*	—	—
Westat (1984) FY 76	531*	—	—	—	—	—	—
Westat (1984) FY 77	1,091*	—	—	—	—	—	—
Bassi (1983)	—	805-382*	—	1,368*-1,549*	2,053*-2,057*	—	—
Bassi et al. (1984) non-welfare disadvantaged adults	—	701*-724*	616*-756*	223-244	772*-812*	—	—
Bassi et al. (1984) welfare	—	190-318	995-1,231*	564-587	454-750	—	—
Bassi et al. (1984) youth	—	(127)-12	452-463	861*-877*	(260)-(58)	—	—
Bloom and McLaughlin (1982)	—	1,200*	(200)	800*	1,500*	700*-1,100*	300
Dickinson, Johnson, West (1984) adults	—	—	—	—	—	35	(363)
Dickinson, Johnson, West (1984) youth	—	—	—	—	—	996*	(348)
Geraci (1984)	—	—	—	—	—	882*	612*

NOTE: \*p < 0.05. — = authors did not estimate impacts for that group.

SOURCE: Barnow (1987).

who were relatively job ready and suitable for either OJT or job search assistance (JSA) if no OJT slots could be identified. Thus, individuals recommended for OJT and JSA were combined into a single service strategy group. Estimates were developed for three groups based on recommended service strategy—classroom training, OJT/JSA, and “other.” The report included estimates for each service recommended strategy group, but it should be kept in mind that individuals in a particular group may have received no service or some service other than the recommended service or services. Impact estimates per person assigned were first estimated, and estimates per person who enrolled were developed using the procedure suggested by Bloom (1984).

JTPA Impact estimates for the 30 months following random assignment for adult women and men are shown in Table 9.5.<sup>16</sup> Estimates for both adult women and adult men were over \$2,000 annually, but only the estimates for women were statistically significant. In comparison, classroom training had impacts of \$630 and \$1,287 for women and men, respectively. The impact for “other” services was higher than for OJT/JSA and statistically significant for women (\$3,949) but smaller and not statistically significant for men (\$941). It is important to stress that these estimates were for people where either OJT or JSA was recommended, and the actual service received need not have been OJT or JSA.

After reviewing the literature, we were surprised about how little is known about the effectiveness of OJT. The program is widely perceived to be a highly effective strategy, but the evidence is more anecdotal than statistical. The estimates from CETA were generally positive, but they were based on relatively weak statistical designs and are over 25 years old. The JTPA findings are based on randomized controlled trials, but the estimates are for OJT and JSA combined, so it is impossible to identify the effects of OJT alone. Unfortunately, the dearth of information on the effectiveness of OJT likely will not change anytime soon.

**Table 9.5 The Impact of JTPA on Earnings of Adult Enrollees Assigned to On-the-Job Training or Job Search Assistance for the 30 Months Following Random Assignment**

Group	Impact
Adult women	2,292**
Adult men	2,109

NOTE: \*\*p < 0.05.

Although USDOL funded a randomized controlled trial impact evaluation of WIA, that evaluation will not include estimates of the impact of OJT.

## **WHY EMPLOYER-BASED TRAINING IS NOT COMMONLY USED**

Although there is limited evidence from rigorous impact evaluations documenting the impact of employer-based training initiatives, there are many examples of the success of customized training and sectoral programs, indicating that when they can be implemented, all parties find them to be beneficial.<sup>17</sup> There are, however, a number of barriers that inhibit wider use of employer-based training in all its forms.<sup>18</sup>

- **High costs to recruit and engage employers combined with small number of trainees needed by individual employers.** Employer-based training requires up-front marketing to interest employers in OJT, customized training, or sectoral training. Moreover, for individual firms, the number of openings they may have is likely to be small. Finally, both WIA and WIOA require employers to pay a portion of the costs of customized and sectoral training, although under WIA waivers were granted to some states to reduce the employer contribution for employers with 250 or fewer employees. With limits on how much they can spend on marketing and an uncertain payoff, local programs are likely to be wary of such endeavors. Sectoral programs offer an important way around some of these issues. Although each hospital in a metropolitan area may require a small number of nursing assistants, if they can combine their efforts, the number may no longer be small.
- **Difficulty in financing curriculum development.** Although WIOA funds can be used to pay for the training itself, funding must also be obtained to develop the curriculum. In the case studies described in Isbell, Trutko, and Barnow (2000), community colleges often paid for the course development when they delivered the training. Recent competitive grants administrated

by USDOL allow for resources to be used for curriculum development and other forms of capacity building.

- **Institutional barriers to being responsive to employer needs.** Workforce programs are often subject to state and local regulations, as well as the regulations set at the federal level. Community colleges may also have requirements on the development of new programs and curricular changes. Many businesses are accustomed to swiftly implementing strategies and can be put off by too much regulation. Some local workforce programs establish employer units that are tuned in to the needs and wants of employers. Sectoral programs often make use of specialized intermediaries that attempt to isolate business from the problems of dealing with government. Workforce intermediaries may be better positioned to respond quickly, but they are still subject to local regulations and contracting requirements of partners.
- **Training programs may not know how to communicate with employers.** Public sector organizations may not be able to speak the same language as employers because of their different views of the world. For example, employers view their workers as a means to producing their goods and services, but government agencies and other workforce organizations may see it as their mission to help the less fortunate escape from poverty. They may find it difficult to recognize employers as a primary customer. Approaches to dealing with this type of issue include specialized employer units within the workforce program and using workforce intermediaries.
- **Firms are often wary of working with the government.** Although workforce development agencies are rarely a threat to employers, firms may not readily distinguish levels and components of government and lump them all together. Overcoming these problems requires communication and a great deal of time. Once again, the use of specialized units in agencies and intermediaries can help assure that employers are dealing with people who “speak their language.”
- **Firms are often wary of working with other firms.** Sectoral programs require cooperation of the participating industries so that a uniform training program can be developed and offered. Firms that compete with each other may believe that having their

own training program enables them to beat the competition, and they may be reluctant to share decisions about curricula with their rivals. Once again, sometimes a neutral intermediary may be needed to bring the parties together.

## CONCLUSIONS AND LESSONS

Employer engagement in workforce development programs has been increasingly recognized as an important feature for the success of these programs. Although progress has been made in this area, there is still a long way to go in learning how best to get meaningful employer involvement on a wide scale. Key lessons from our review include the following:

- **Although WIA required that employers compose a majority of the local Workforce Investment Boards, two national evaluations of the implementation of WIA find that employer involvement in these boards was generally insufficient.** Both the D'Amico et al. (2004) and Barnow and King (2005) studies of WIA implementation find that although employers constituted a majority on local WIBs, they generally did not play a major role in directing the local programs. Studies of local boards that have been more successful in actively involving employers would be useful in shedding light on how to engage employers more effectively in workforce system oversight, particularly in the context of the passage of WIOA, which places new emphasis on employer engagement. Although efforts should continue to increase the role of employers on these boards, perhaps greater gains are likely to accrue from getting employers to participate more actively in the training programs themselves. Workforce organizations may seek employers to serve on boards as an initial step toward eliciting their deeper involvement in training programs.
- **Although the evaluations of employer-based training generally show it to be more effective than training focusing solely on the supply side of the market, there is a need for addi-**

**tional rigorous evaluations of all forms of employer-based training, including OJT, customized training, and sectoral training.** Both qualitative and quantitative evaluations show that approaches that include more employer involvement are effective in increasing employment and earnings. However, the evidence is not as strong as is needed to be in the top tier. For example, the major evidence on the effectiveness of OJT itself stems from studies over 30 years old before modern approaches such as propensity score matching were developed. The only major evaluation of sectoral programs making use of randomized controlled trials deliberately selected three strong programs, so it is not clear if the findings apply more broadly to sectoral programs. To remedy this situation, USDOL and other interested organizations should, to the extent possible, support demonstrations with rigorous evaluations to learn more about how effective employer-based strategies are and which aspects of such programs make the greatest contributions. Key to the usefulness of these evaluations will be the inclusion of strong implementation studies so that policymakers, funders, and practitioners can learn not only about the effectiveness of these approaches but also how they work.

- **Because of the barriers that limit the use of employer-based training, strategies should be explored to promote employer-based training, including the following:**
  - Financial incentives can encourage programs to make investments in setting up these programs. For example, financial incentives can be used by states to promote buy-in from employers on the expansion of certain types of employer-centered models, such as sectoral programs or registered apprenticeship. WIOA makes an important first step in reducing barriers to participation by eliminating the WIA requirement that employers contribute half of customized training costs and allowing reimbursement of up to 75 of wages for on-the-job training. However, depending on WIOA's regulations and how they are implemented, required employer contributions might still create a barrier to participation. Nonfinancial incen-

tives can be used to award higher scores in competitive demonstration programs to applicants who use employer-based training approaches. Applicants for publicly funded workforce development programs should be evaluated not only on whether they have a partner, but on the strength and purpose of that partnership. For example, the decision could be based in part on how long the partnership has been in existence prior to application and the level of engagement that is planned.

- Some sectoral programs make use of intermediaries to connect employers who often do not trust government agencies or other employers. By supporting the use of intermediaries along with rigorous evaluation of such activities, more organizations can be encouraged to use sectoral training strategies, and we can learn more about the effectiveness of intermediaries.
- Given the challenges of employer engagement, workforce organizations may also benefit from technical assistance on how to most effectively engage employers in programs. Practitioners need more information about the key components of effective employer-centered models and effective employer engagement strategies, which can be drawn, in part, from high-quality implementation studies. In addition, the staffs of workforce organizations need the skills and knowledge base to work effectively with employers.

In sum, involving employers more in training programs makes good sense from a theoretical perspective, and the evaluations to date indicate that a variety of approaches appear to provide substantial gains for participants and employers. But, clearly we need to learn more about the effectiveness of these programs, as well as the costs and benefits of various approaches relative to each other and more traditional training programs.

## Notes

1. See <http://www.astd.org/Publications/Blogs/ASTD-Blog/2013/12/ASTD-Releases-2013-State-of-the-Industry-Report> (accessed June 21, 2014).
2. For research on the effectiveness of apprenticeship as an employer-centered strategy, see Hollenbeck and Huang (2013) and Reed et al. (2011). For research on state-funded customized training programs, see Duscha and Graves (2006).
3. For a description of the introduction of private industry councils (PICs) in the CETA program in 1978, see U.S. General Accounting Office (1983).
4. The local Employment Service business advisory groups are generally referred to as Job Service Employer Committees, or JSECs.
5. Roughly one-half of the states have received waivers under WIA to reduce the match requirement for small businesses.
6. Under WIA and WIOVA, working with groups of employers is considered a form of customized training, as long as other requirements are met, as defined under each law.
7. A number of foundations, through the National Fund for Workforce Solutions, have supported the key elements of sectoral and intermediary-driven strategies through what has been termed “workforce partnerships,” which are defined as employer-driven strategies that organize multiple institutions and funding streams around the common goal of career advancement for low-wage, low-skilled workers in specific industry-sectors. See <http://www.nfwsolutions.org/> (accessed June 21, 2014).
8. Material in this section is based on Maguire et al. (2010).
9. Sample attrition is analyzed in Appendix B of Maguire et al. (2010). The analysis indicated that in the follow-up sample, treatment group members were more likely to be married and to be immigrants and less likely to have ever been incarcerated. Tests for attrition bias using a regression of treatment status on characteristics produced an F statistic that was not statistically significant. Similar tests were conducted at each site. The most notable difference in samples occurred at JVS-Boston, where 80 percent of the treatment group participated in the follow-up survey compared to 73 percent of the control group; the two groups differed little on baseline characteristics and the regression of treatment status on characteristics produced an insignificant F statistic. Thus, there is no evidence of serious attrition bias in the overall sample, and it does not appear to be a problem in the individual sites.
10. See <http://www.capitalidea.org/about/#> (accessed April 19, 2014).
11. It is not obvious how to interpret the variable capturing filing for a UI claim. A training program that is effective should reduce unemployment and thus the need to file a claim; on the other hand, among job losers, being qualified to file a claim is a positive outcome. We do not discuss results for this outcome.
12. Smith, King, and Schroeder (2011) note that applying calipers might have led to

- some treatment group members being eliminated from the analysis.
13. In personal communication, Tara Smith, one of the Ray Marshall Center Capital IDEA evaluators, stated that Capital IDEA staff have told her that less than 14 percent of applicants to the program are accepted.
  14. Some models of OJT focus on creating employment opportunities for certain disadvantaged populations, such as individuals with criminal records and welfare recipients. While not the focus of this chapter, there is some evidence that such interventions may have an impact on employment outcomes in the short term. (See Redcross et al. [2012] and Roder and Elliott [2013]).
  15. The translation to today's dollars were made using the Bureau of Labor Statistics' inflation calculator, assuming that the impacts occurred in 1978. [Http://www.bls.gov/data/inflation\\_calculator.htm](http://www.bls.gov/data/inflation_calculator.htm) (accessed June 21, 2014).
  16. None of the reported impacts for out-of-school youth were statistically significant, and for males they varied a great deal depending on the source of data used for the estimation. OJT impacts were negative for women and for male youth who had not been arrested.
  17. See, for example, Martinson (2010) and Woolsey and Groves (n.d.) for examples of current successful sectoral programs.
  18. For a discussion of barriers to employer participation in customized and sectoral training programs, see Isbell, Trutko, and Barnow (2000).

## References

- Association for Talent Development. 2013. *State of the Industry Report*. Alexandria, VA: ASTD Press.
- Bailey, T. R. 1988. "Market Forces and Private Sector Processes in Government Policy: The Job Training Partnership Act." *Journal of Policy Analysis and Management* 7(2): 300–315.
- Barnow, Burt S. 1987. "The Impacts of CETA Programs on Earnings." *Journal of Human Resources*. 22(2): 157–193.
- Barnow, Burt S., and Christopher T. King. 2005. "The Workforce Investment Act in Eight States." Occasional Paper 2005-01. Washington, DC: USDOL.
- Bassi, Laurie J. 1983. "The Effect of CETA on the Postprogram Earnings of Participants." *Journal of Human Resources* 18(4): 539–556.
- Bassi, Laurie J., Margaret C. Simms, Lynn C. Burbridge, and Charles L. Betsey. 1984. *Measuring the Effect of CETA on Youth and the Economically Disadvantaged*. Final report prepared for USDOL under Contract No. 20-11-82-19. Washington, DC: Urban Institute.
- Bloom, Howard S. 1984. "Accounting for No-Shows in Experimental Evaluation Designs." *Evaluation Review* 8(2): 225–246.
- Bloom, Howard S., and Maureen A. McLaughlin. 1982. "CETA Training Pro-

- grams—Do They Work for Adults?” Joint Congressional Budget Office-National Commission for Employment Policy report. Washington, DC: National Commission for Employment Policy.
- Bloom, Howard S., Larry L. Orr, Stephen H. Bell, George Cave, Fred Doolittle, Winston Lin, and Johannes M. Bos. 1997. “The Benefits and Costs of JTPA Title II-A Programs: Key Findings from the National JTPA Study.” *Journal of Human Resources* 32(3): 549–576.
- Clymer, Carol. 2003. “By Design: Engaging Employers in Workforce Development Organizations.” Philadelphia: Public/Private Ventures.
- Conway, Maureen, Amy Blair, Steven L. Dawson, and Linda Dworak-Muñoz. 2007. “Sectoral Strategies for Low-Income Workers: Lessons from the Field.” Washington, DC: Aspen Institute.
- D’Amico, Ronald, Kate Dunham, Jennifer Henderson-Frakes, Deborah Kogan, Vinz Koller, Melissa Mack, Michaene Magnotta, Jeffrey Salzman, Andrew Wiegand, Gardner Carrick, and Dan Weissbein. 2004. *The Workforce Investment Act after Five Years: Results from the National Evaluation of the Implementation of WIA*. Oakland, CA: Social Policy Research Associates.
- Dickinson, Katherine P., Terry R. Johnson, and Richard W. West. 1984. *An Analysis of the Impact of CETA Programs on Participants’ Earnings*. Final report prepared for USDOL under Contract No. 20-06–82-21. Menlo Park, CA: SRI International.
- Dunham, Kate, Jeff Salzman, and Vinz Koller. 2004. *Business as Partner and Customer under WIA: A Study of Innovative Practices*. Oakland, CA: Social Policy Research Associates.
- Duscha, Steve, and Wanda Lee Graves. 2006. “The Employer as the Client: State-Financed Customized Training.” Washington, DC: USDOL, Employment and Training Administration.
- Geraci, Vincent J. 1984. “Short-Term Indicators of Job Training Program Effects on Long-Term Participant Earnings.” Report prepared for USDOL under Contract No. 20-48-92-16. Austin, TX: University of Texas at Austin.
- Giloth, Robert P. 2004. “Introduction.” In *Workforce Intermediaries for the Twenty-First Century*, Robert P. Giloth, ed. Philadelphia, PA: Temple University Press.
- Gross, Julian. 2008. “Community Benefits Agreements: Definitions, Values, and Legal Enforceability.” *Journal of Affordable Housing* 17(1-2): 35–58.
- Gutman, Robert. 1983. “Job Training Partnership Act: New Help for the Unemployed.” *Monthly Labor Review* 106(3): 3–10.
- Hollenbeck, Kevin, and Wei-Jang Huang. 2013. *Net Impact and Benefit-Cost Estimates of the Workforce Development System in Washington State*. Upjohn Institute Technical Report 13-029. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

- Isbell, Kellie, John Trutko, and Burt S. Barnow. 2000. "Customized Training for Employers: Training People for Jobs That Exist and Employers Who Want to Hire Them." In *Improving the Odds: Increasing the Effectiveness of Publicly Funded Training*, Burt S. Barnow and Christopher T. King, eds. Washington, DC: Urban Institute Press.
- Job Training Partnership Act*, Pub.L. 97–300, 29 U.S.C. § 1501, et seq. (1982).
- Lerman, Robert I., Signe-Mary McKernan, and Stephanie Riegg. 2004. "The Scope of Employer-Provided Training in the United States: Who, What, Where and How Much?" In *Job Training Policy in the United States*, Christopher J. O'Leary, Robert A. Straits, Stephen A. Wandner, eds. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 211–244.
- Maguire, Sheila, Joshua Freely, Carol Clymer, Maureen Conway, and Deena Schwartz. 2010. *Tuning in to Local Labor Markets: Findings from the Sectoral Employment Impact Study*. Philadelphia: Public/Private Ventures.
- Martinson, Karin. 2010. "Partnering with Employers to Promote Job Advancement for Low-Skill Individuals." Washington, DC: Urban Institute.
- Mikelson, Kelly S., and Demetra Smith Nightingale. 2004. *Estimating Public and Private Expenditures on Occupational Training in the United States*. Washington, DC: USDOL.
- Pindus, Nancy, and Kellie Isbell. 1996. "Involving Employers in Training: Literature Review." Washington, DC: USDOL, Employment and Training Administration.
- Redcross, Cindy, Megan Millenky, Timothy Rudd, and Valerie Levshin. 2012. "More than a Job: Final Results from the Evaluation of the Center for Employment Opportunities (CEO) Transitional Jobs Program." New York: MDRC.
- Reed, Debbie, Albert Yung-Hsu Liu, Rebecca Kleinman, Annalisa Mastri, Davin Reed, Samina Sattar, Jessica Ziegler. 2011. "An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States." Oakland, CA: Mathematica Policy Research.
- Roder, Anne, and Mark Elliott. 2013. "Stimulating Opportunity: An Evaluation of ARRA-Funded Subsidized Employment Programs." New York: Economic Mobility Corporation.
- Smith, Tara C., and Christopher T. King. 2011. *Exploratory Return-on-Investment Analysis of Local Workforce Investments*. Austin, TX: Ray Marshall Center for the Study of Human Resources, LBJ School of Public Affairs, University of Texas at Austin.
- Smith, Tara C., Christopher T. King, and Daniel G. Schroeder. 2011. *Local Investment in Workforce Development: 2011 Evaluation Update*. Austin, TX: Ray Marshall Center for the Study of Human Resources, LBJ School of Public Affairs, University of Texas at Austin.

- U.S. General Accounting Office. 1983. *Federal Job Training: A Comparison of Public and Private Sector Performance*. Report GAO/IPE-83-5. Washington, DC: U.S. General Accounting Office.
- Westat. 1981. *Continuous Longitudinal Manpower Survey Net Impact Report No. 1: Impact on 1977 Earnings of New FY 1976 CETA Enrollees in Selected Program Activities*. Report prepared for USDOL under Contract No. 23-24-75-07. Rockville, MD: Westat.
- . 1984. *Summary of Net Impact Results*. Report prepared for USDOL under Contract No. 23-24-75-07. Rockville, MD: Westat.
- Woolsey, Lindsey, and Garrett Groves. n.d. "State Sector Strategies Coming of Age: Implications for State Workforce Policymakers." Washington, DC: National Governors Association.



# 10

## A New Way of Doing Business

### The Career Pathway Approach in Minnesota and Beyond

Vickie Choitz  
*Aspen Institute and Center for Law and Social Policy*

Thomas Norman  
*Minnesota Department of Employment  
and Economic Development*

Whitney Smith  
*Joyce Foundation*

with Nola Speiser  
*Minnesota FastTRAC Adult Career Pathways Initiative*

and Brian Paulson  
*Pohlad Family Foundation*

#### THE NEED FOR CAREER PATHWAYS

The economy has gone through a dramatic transformation over the past 40 years, making postsecondary education and technical training the primary gateway out of low-wage work and into the middle class (Carnevale, Smith, and Strohl 2010). Yet, for numerous reasons, too many Americans cannot access such education and training. According to a recent international survey, *Program for the International Assessment of Adult Competencies 2012*, 18 percent of U.S. adults have low literacy skills and 30 percent have low numeracy skills (Goodman et al. 2013). Their skill levels are too low to succeed in postsecondary educa-

tion, and many of these lower-skilled adults struggle to succeed in the workplace.<sup>1</sup> Additionally, tuition and fees at postsecondary institutions have increased nearly four times faster than median family income, and are far beyond what low-income and lower-skilled individuals can afford (Reimherr et al. 2013). Low-income students with children also struggle to afford basic necessities like child care and transportation to stay in school.

Compounding these challenges is that many workers and job seekers do not know where or how to get the education or training necessary to begin a career. They lack access to career guidance (Choitz, Soares, and Pleasants 2010) and face a confusing array of education and training options. Most attend multiple institutions, but the credits and credentials earned in one program often do not transfer to another. Navigating the maze of education and training offerings is not any easier for small and medium-sized employers, who often want to expand their capacity to offer learning options for their workforces or need help finding workers with the right skills and credentials. All of these dynamics mean both workers and employers waste tremendous economic opportunity because they are not getting what they need. It also means that public dollars supporting existing programs could be better leveraged if educational opportunities and services were better coordinated and aligned.

## **AN INNOVATIVE APPROACH TO WORKFORCE DEVELOPMENT IN THE TWENTY-FIRST CENTURY**

The career pathway approach connects progressive levels of education, training, support services, and credentials for specific occupations in a way designed to optimize the progress and success of individuals with varying levels of abilities and needs (including those with limited education, skills, English, and/or employment experience). The goal is to help individuals earn marketable credentials, engage in further education and employment, and achieve economic success. Importantly, the career pathway approach deeply engages employers and helps meet their workforce needs; it also helps states and communities strengthen their workforces and economies. However, it is not simply a new

model—it is a *systems transformation* strategy (Alliance for Quality Career Pathways [AQCP] 2014).

According to the AQCP, career pathways operationalize this approach and include three essential features and four functions as summarized in Box 10.1. Career pathways include secondary career and technical education programs of study, adult career pathways, and apprenticeships, among others. This approach can benefit low-income, lower-skilled adults, and youth in particular—who often must balance work, family, and school—by providing manageable segments of education and training that are tailored to learner needs, closely tied to regional industry and employer needs, infused with supportive services and career navigation assistance, and connected to marketable credentials that can be stacked throughout one’s career. This case study on Minnesota and the AQCP focuses on career pathways for low-income, lower-skilled adults.

### **Box 10.1 Career Pathway and Program Features and Functions**

#### **Features:**

- 1) Well-connected and transparent education, training, support service, and credential offerings (often delivered via multiple linked and aligned programs)
- 2) Multiple entry points that enable both well-prepared students and targeted populations with limited education, skills, English, and work experiences to successfully enter the career pathway
- 3) Multiple exit points at successively higher levels leading to self- or family-supporting employment and aligned with subsequent entry points

#### **Functions:**

- 1) Participant-focused education and training
- 2) Consistent and non-duplicative assessments of participants’ education, skills, and assets/needs
- 3) Support services and career navigation assistance to facilitate transitions
- 4) Employment services and work experiences

Each career pathway includes a progressive set of competencies and credentials that often span across education and training partners, including adult education and English language instruction, high schools, workforce service providers, and/or postsecondary education institutions. Each career pathway also includes a range of support services provided by community-based organizations or human service agencies, depending on needs of the participants. Given the breadth and depth of a good career pathway, most often they are made up of individual linked and aligned programs, for example, an adult education “bridge” program that connects adult education students to a one-year technical certificate program in manufacturing production and operations, which is linked and aligned with a two-year associate of applied science degree in manufacturing production and operations.

The idea to align services and programs around the concept of a career pathway began to emerge in the 2000s (Fein 2012) and included Oregon’s Career Pathways Initiative, Washington State’s Integrated Basic Education Skills Training (I-BEST) program, and California’s Career Ladders Project—all three unique efforts. Many other states quickly followed with their own variations on career pathways: in 2007 Minnesota launched its FastTRAC Adult Career Pathways initiative, and Wisconsin created the RISE (Regional Industry Skills Education) Initiative. Today, at least a dozen states have their own career pathway initiatives that are growing into more comprehensive career pathway systems supported by state policy and multiple funding streams, and more are coming online every year. This acceleration is in part due to federal guidance—issued jointly by the U.S. Departments of Labor, Education, and Health and Human Services in 2012—that cited evidence and encouraged states to consider career pathway adoption. Also, there have been multiple federal technical assistance initiatives and public and private funding for career pathways (see U.S. Department of Education 2010; U.S. Department of Labor 2010).<sup>2</sup>

A body of evidence to support career pathways is beginning to emerge. The career pathway approach truly is a new way of doing business; therefore, it has taken time for partners to come together and align services, programs, funding, and data—all of which must be well-established before rigorous evaluation is appropriate. The integrated, multi-intervention nature of career pathways also poses challenges

for evaluation. However, program evaluations are beginning to provide evidence that the core functions or practices in career pathway programs are more effective than traditional education and training strategies. For example, studies of the Washington State I-BEST (Integrated Basic Education and Skills Training) program find that students achieved greater basic skills gains and were more likely to continue into credit-bearing course work, earn college credits, and attain occupational certificates than similar non-I-BEST students (Zeidenberg, Cho, and Jenkins 2010; Jenkins, Zeidenberg, and Kienzl 2009). I-BEST is a career pathway bridge program in which basic skills instruction occurs concurrently with college-level career training and is contextualized.<sup>3</sup> Another study from Stanford University provides support for contextualized math in particular (Wiseley 2011).

Evaluations of programs in Illinois and New York City have shown that support services and student success services—one of the categories of essential functions in career pathways—can play a key role in improving student persistence, credit accumulation, and graduation (Bragg et al. 2009; Linderman and Kolenovic 2009; Scrivener and Weiss 2009). Students in the New York City program overwhelmingly credited enhanced supportive services—financial aid, free access to textbooks, a transportation card, and comprehensive academic, social, and interpersonal support—as the reason they were able to complete their educational programs. Other research provides evidence of effectiveness for these and other core functions and practices often utilized in career pathways (Bailey, Smith Jaggars, and Jenkins 2001; Werner et al. 2013).<sup>4</sup> An analysis by CLASP reasoned that, “[w]hile the impact of any one of these strategies alone is often modest, the I-BEST experience lends weight to the idea that such strategies may have more impact when combined” (Strawn 2011).

Building from the body of evidence on common *practices* in career pathways, the federal government and foundations have recently invested in rigorous evaluation of career pathway *programs* that integrate several of these practices. The U.S. Department of Health and Human Services (HHS) has funded the Health Profession Opportunity Grants and a set of corresponding evaluations, including a randomized control study. HHS also has funded the Innovative Strategies for Increasing Self-Sufficiency, a rigorous evaluation that should have

results available in 2017. A group of philanthropic funders is supporting the Accelerating Opportunity initiative, which includes a rigorous evaluation with results expected in 2015–2016.

## THE ALLIANCE FOR QUALITY CAREER PATHWAYS

While the body of evidence grows, local practitioners, agency leaders, employers, and policymakers are forging ahead to adopt the career pathway approach in their states and communities. However, without definitive guidance on the strongest practices and processes to adopt and implement, it is difficult to know if they are on the right track. In 2012, CLASP recognized this challenge and invited 10 leading career pathway states and their local/regional partners—Arkansas, California, Illinois, Kentucky, Massachusetts, Minnesota, Oregon, Virginia, Washington, and Wisconsin—to form the AQCP supported by the Joyce Foundation, the James Irvine Foundation, and the Greater Twin Cities United Way. The purpose of the Alliance in the first two years was to develop a framework based on existing evidence and “wisdom from the field” that could provide a shared vision and definition of quality career pathways and *systems*.<sup>5</sup> CLASP and the AQCP purposefully called the first iteration of this framework “version 1.0” because it is expected to evolve as the field generates more evaluation evidence of what works and what makes for quality. Since the field is still at an early stage, career pathway partnerships are continually refining their efforts to improve education, training, and employment outcomes and to scale up and sustain their pathways work.

This comprehensive AQCP framework is a three-part package. The first is a refined set of definitions for the career pathway field; many have been included in the section above. These definitions are inclusive of a variety of career pathways, including those for youth and adults, for job seekers and incumbent workers, and for lower-skilled, nontraditional students as well as more traditional ones. The second part of the framework is a set of criteria and indicators for what constitutes quality career pathway systems (see Box 10.2). The third is the inaugural

### **Box 10.2 AQCP Criteria and Indicators for Quality Career Pathway Systems**

*A career pathway system is the cohesive combination of partnerships, resources and funding, policies, data, and shared performance measures that support the development, quality, scaling, and dynamic sustainability of career pathways and programs for youth and adults.*

**Commit to a shared vision and strategy** for industry sector-based career pathways for youth and adults and for building, scaling, and dynamically sustaining career pathway systems.

**Engage employers and integrate sector strategy principles** to ensure multiple employers, business associations, and labor unions are partners in creating demand-driven career pathways.

**Collaborate to make resources available** by identifying, prioritizing, and leveraging resources for career pathway systems, partnerships, and programs.

**Implement supportive policies** for the career pathway systems, pathways, and programs.

**Use data and shared measures** to measure, demonstrate, and improve participant outcomes.

**Implement and integrate evidence-based practices and processes** (specifically for local/regional career pathway systems).

set of career pathway participant metrics to measure and manage participant progress and success in a joint, cross-system, and cross-partner approach (AQCP 2014). As of this writing, the AQCP is entering its second phase in which partners will implement the framework, using the criteria and indicators to self-assess their career pathway systems and evolving into using the participant metrics to inform continuous improvement and performance measurement.

## MINNESOTA'S FASTTRAC ADULT CAREER PATHWAY PROGRAM AND EVOLVING STATE CAREER PATHWAY SYSTEM

Minnesota FastTRAC (Training, Resources, and Credentialing) is an adult achievement initiative to help educationally underprepared adults achieve success in high-demand careers that pay family-sustaining wages—the strategy is to integrate basic skills and career and technical education along a continuum from foundational skills preparation to a postsecondary credential. It is a critical career pathway program in the state's emerging career pathway system that provides entry points to career pathways in a variety of in-demand fields—including health care, manufacturing, business, construction, transportation, and early childhood education/child development—for low-wage, lower-skilled workers and job seekers.<sup>6</sup>

Minnesota provides an example of a strong state-led career pathway initiative that is evolving into a wider and more comprehensive state career pathway system. Over the years, the state has built a suite of career pathway initiatives for different types of individuals. For example, like most states, Minnesota's career and technical education (CTE) programs provide entry points to postsecondary technical career pathways for many high school students. In 2007, Minnesota took its first steps toward providing career pathways for lower-skilled adults with a planning grant through the Joyce Foundation's Shifting Gears initiative to design FastTRAC. The original core group of partners included the Minnesota State Colleges and Universities System (MnSCU), Adult Basic Education (ABE) at the Department of Education, the Department of Employment and Economic Development (DEED), and the Greater Twin Cities United Way.

In addition to the economic imperative of needing more skilled and credentialed workers, a primary motivational factor was that each entity was serving the same lower-skilled population, but in a disjointed way that failed to fully utilize each other's resources effectively. They agreed that they could do better *together* and developed the Minnesota FastTRAC Adult Career Pathway partnership and initiative. This partnership—convened by DEED—has grown over the years to also include the state's Department of Human Services (DHS), Department

of Corrections, Office of Higher Education, Department of Labor and Industry, Governor's Workforce Development Council, and employers, in addition to the original core partners. This partnership aligns resources to fund grantees, supports the importance of career pathways within each agency through an agreed-upon shared vision, and uses shared data made possible with data sharing agreements to support the evaluation and continuous improvement of career pathway programs and local systems.

One example of a FastTRAC career pathway program is the Rochester Medical Careers FastTRAC Pathway program in which participants are trained to become Advanced Hospital Certified Nursing Assistants. It provides participants with two courses of contextualized basic skills instruction linked to a for-credit Advanced Hospital Certified Nursing Assistant (CNA) course at Rochester Community and Technical College.<sup>7</sup> Partners include Workforce Development Inc., Rochester Adult and Family Literacy, Olmsted County United Way, and Mayo Clinic. Entry points into this program include the adult basic education program, the workforce service providers, as well as referrals from the college. The main exit point is an Advanced Hospital CNA credential; however, partners have created seamless transitions for participants into subsequent career pathway programs in health emergency medical technician, unit coordinator, human service technicians, practical nursing, coding specialist, surgical technology, and medical secretary. Credits earned in FastTRAC count toward these subsequent pathways. A staff person called a navigator provides guidance, makes referrals to the supports participants may need, and serves as a central point of contact throughout the pathway. Participant-focused education and training includes contextualized instruction as well as integrated ABE and Advanced Hospital CNA technical skills instruction.<sup>8</sup>

Partners have implemented consistent and nonduplicative assessment of participants' education, skills, and assets/needs by aligning their intake processes. If the participants pass the contextualized basic education bridge course, they can skip the college placement exam and continue taking courses in their health care career pathway of choice. Workforce Development Inc. provides supportive services and career navigation. The navigator supports students through recruitment, assessment, career counseling, individual plan development, job search, and entry into a job. Eligible participants are coenrolled in applicable

support and career navigation programs offered through the workforce system.

The Rochester Medical Careers FastTRAC Pathway program has garnered enthusiastic support from its employer partner. According to Guy Finne, human resources manager at the Mayo Clinic, “[t]his new education model guides learners to GED/diploma attainment AND college/career readiness AND a higher level of employability with college education. The model’s vision created an individualized job training/education experience connecting diverse populations to demanded career pathways in health care. The model’s strategy utilizes an innovative support system (from assessment to job placement) that allows students to enter and exit job training, developmental education and support services at various points based on individual learner’s academic/personal assessments.”<sup>9</sup>

Another example of a career pathway is the new West Metro Pathway to Manufacturing Careers FastTRAC program in Hennepin County (Minneapolis and western suburbs).<sup>10</sup> This pathway offers ABE students, English Language Learners, and long-term unemployed individuals a fundamentals of manufacturing bridge course in which participants gain foundational knowledge and skills necessary to complete the integrated soldering class at Hennepin Technical College. They also earn an industry-recognized soldering certification. From there, participants can seamlessly continue on a manufacturing education and career pathway via the nationally recognized M-Powered precision manufacturing program, which is a partnership among Hennepin Technical College, HIRED (a community-based organization), employers, and the local workforce agency. Career navigators support and guide participants through the West Metro bridge program and into the linked college manufacturing program. Participants can access support services throughout the program as needed.

## **Results and Scale**

Since 2009, the state partnership has funded six rounds of FastTRAC grants. The last two rounds in 2013 and 2014 have been supported with funds from the state workforce development fund as authorized by the state legislature and have funded 25 FastTRAC career pathways. During the previous four rounds (2009–2012), Minnesota

FastTRAC programs were supported through braided funds combining multiple federal, state, and philanthropic sources and served 3,385 individuals. Self-reported data through quarterly program reporting indicates that 88 percent of these individuals completed industry-recognized credentials and/or credits toward those credentials, and 69 percent attained employment and/or continued education in the career pathway (see Table 10.1). Recently, Minnesota has been able to access wage record data from the state Unemployment Insurance records for program exiters in calendar years 2010–2013. On average, almost 60 percent of all exiters entered employment, and 85 percent retained employment for at least 6 months.<sup>11</sup> Exiters who had wages in all four quarters after exit earned an average of \$21,080 annually, which is 33 percent more on average than what they earned prior to FastTRAC enrollment (\$15,856). This average percentage increase has risen steadily since 2010, suggesting that, as the programs mature, they may be better able to assist participants in finding better jobs.<sup>12</sup> This increase lifts a family of three out of poverty; however, the average participant is still among the “working poor,” which is why it is critical that Minnesota FastTRAC programs link and align with subsequent programs along career pathways to provide participants with further education and credentials and higher-paying employment.<sup>13</sup>

**Table 10.1 Minnesota FastTRAC Participant Outcomes**

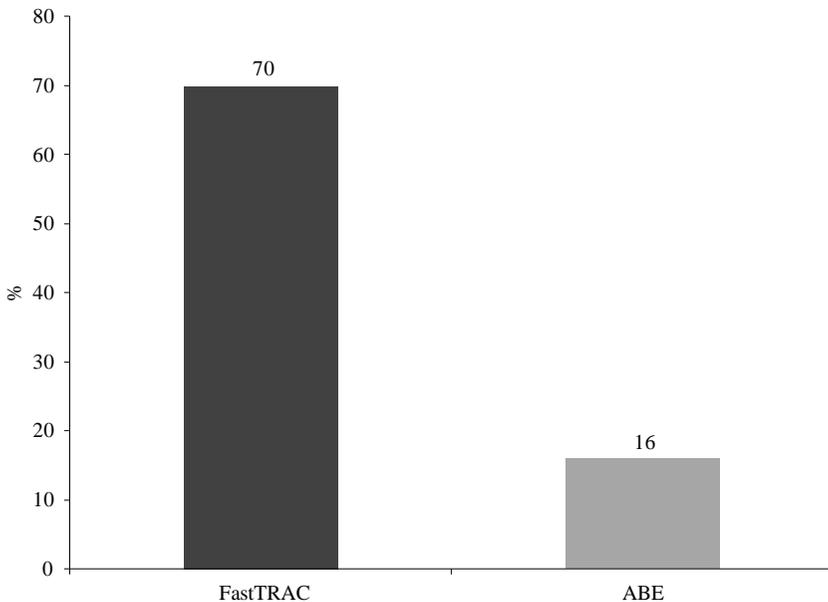
Quarterly self-reported program data; 2009–2012 (N = 3,385)	
Completed industry recognized credentials and/or credits toward those credentials (%)	88
Attained employment and/or continued education in the career pathway (%)	69
Administrative data (Unemployment Insurance wage records) 2010–2013 program exiters (N = 1,019)	
Entered employment (%)	57.2 <sup>a</sup>
Retained employment (%)	84.8
Average wage one year after exit for those with wages in all four quarters (\$)	21,080

<sup>a</sup> This percentage includes 2013 program exiters, whereas the other data points only include exiters in 2010–2012.

SOURCE: State of Minnesota Department of Employment and Economic Development Workforce One system and Unemployment Insurance wage records.

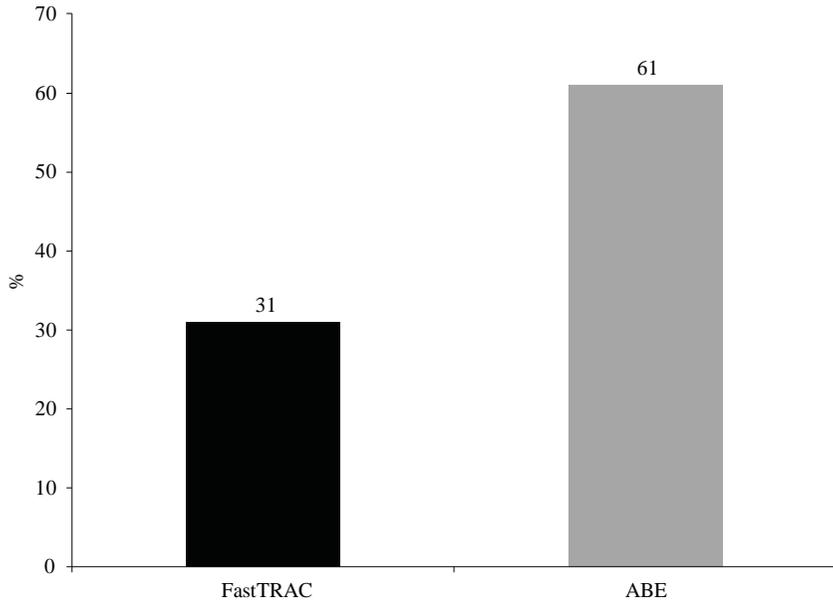
A 2013 study by MnSCU finds that FastTRAC participants were more likely to enroll in college courses than their traditional ABE peers and were more likely to be able to skip developmental education. Seventy percent of the FastTRAC participants flagged in the MnSCU data system in the 2011–2012 academic year were enrolled in college courses (credit and noncredit) during or within one year after participation in FastTRAC, compared to only 16 percent of ABE students who had not participated in FastTRAC (see Figure 10.1). Only 31 percent of FastTRAC participants registered for a developmental education course in the 2011–2012 academic year, compared to 61 percent of traditional ABE learners (see Figure 10.2; Minnesota State Colleges and Universities 2013). Incorporating remedial education into early course work such as career pathway bridge programs greatly increases students' chances of earning a credential and accelerates their progress. As data become available, state FastTRAC partners will work together to ana-

**Figure 10.1 Percentages of FastTRAC and ABE Students Enrolled in College Courses during or within One Year of Program Participation (2011–2012 academic year data)**



SOURCE: Minnesota State Colleges and Universities (2013).

**Figure 10.2 Percentages of FastTRAC and ABE Students Enrolled in a Development Education Course (2011–2012 academic year data)**



SOURCE: Minnesota State Colleges and Universities (2013).

lyze the employment and earnings outcomes of Minnesota FastTRAC Adult Career Pathway participants compared to students participating in traditional adult basic education courses required prior to entering occupational skills training programs.

Since 2010, 44 Minnesota FastTRAC programs have been started across all 16 Workforce Service Areas (workforce investment board regions in Minnesota) and on 29 of the 47 MnSCU campuses. Also, approximately 90 percent of Minnesota's ABE service delivery consortia have created career pathway programming.

### **Building a Minnesota Career Pathway System**

This proliferation of Minnesota FastTRAC programs has been supported by a committed and persistent state partnership dedicated to continually refining the model and to building a state career pathway system

(AQCP 2014).<sup>14</sup> The FastTRAC partnership of state agencies (workforce, postsecondary, adult and secondary education, human services, corrections, and others); philanthropy; and employers has met consistently over the last seven years and provides a solid base for a system that supports a suite of different types of pathways. Partners have grown to know each other's systems and have a shared vision of the FastTRAC initiative and desired outcomes. They collaborate to make resources available, improve and/or implement new agency policies and practices to support FastTRAC, work to align data systems, and use a set of shared metrics to measure FastTRAC participant success. They contribute funds to support joint requests for proposals to the field and also coordinate resources that may be outside the joint grant-making process. For example, in 2012–2013, the state partnership “braided” several funding sources together to grant \$1.5 million to 20 FastTRAC partnerships.<sup>15</sup> In 2013, the state legislature significantly increased FastTRAC sustainability by appropriating \$1.5 million per year for FastTRAC from the state's Workforce Development Fund; partners continue to support FastTRAC programs with their own resources as well.

Each partnering agency has made policy changes supportive of career pathways. The state adult basic education office has revamped its State Strategic Plan to reflect the FastTRAC Adult Career Pathway framework and has hired regional transition coordinators to assist FastTRAC programs; it now leads joint professional development for local/regional career pathway partnerships. MnSCU has adopted administrative guidelines for program referral and curriculum alignment between adult basic education and community/technical colleges. The state workforce office has revised state Workforce Investment Act Title I guidelines to require local workforce board plans to support FastTRAC Adult Career Pathway programs and provide staff support to coordinate the state partnership and manage the grants (Roberts and Price 2012). ABE, MnSCU, DEED, and DHS have engaged in the very difficult work of coordinating data across systems to longitudinally track participant progress and success.

Minnesota has been a key partner in the AQCP and is using its framework to strengthen its career pathway efforts. The state has used the framework at the local level, where FastTRAC career pathway programs employed an early version of the self-assessment tool to identify

strengths and areas for improvement. Building from the state FastTRAC partnership and from the AQCP framework, the Governor's Workforce Development Board (the state workforce investment board) has issued recommendations for building a statewide, sector-based career pathway system inclusive of all career pathways, including but not limited to FastTRAC and career and technical education.

## CONCLUSION

The career pathways approach has taken root in Minnesota and elsewhere out of an imperative to do better for workers and employers. Early evidence is mounting, rigorous evaluations are under way, and a national framework is emerging to more clearly understand this robust, multifaceted approach to aligning and integrating resources. Supported by a variety of public and private investments, the roots of this education and workforce movement are growing. However, to ensure that emerging career pathway systems at the state and local/regional levels do not topple with the next gubernatorial or presidential change or budgetary shift, systems need to establish deeper roots. We need policy changes across federal and state agencies that support the career pathways approach, such as allowing student financial aid for shorter-term programs that successfully produce graduates with marketable credentials. Also, "formula" funding—federal or state noncompetitive grant funding based on a predetermined formula—should be shaped to support this approach (in addition to discretionary grant funding deployed thus far). And data and performance measurement systems should facilitate career pathway partnerships working together to achieve shared outcomes rather than reinforcing the silos and disconnects in the status quo, for example, performance measured by participant success along the career pathway rather than simply by separate federal programs or funding streams.

The Workforce Innovation and Opportunity Act passed in July 2014 to reauthorize federal workforce and adult education programs is a significant step in that direction. The law supports the career pathway approach in its requirements for state and local workforce boards,

unified plans, youth activities, and performance measurement. It also makes career pathways an allowable activity in state leadership activities and funding.

Additionally, a group of leading career pathway partnerships—including state and local partners in Minnesota—has joined together in the AQCP alliance to identify and hone a framework that can help them grow these deeper roots. This *system transformation* work is not easy, but the fruits of the partners' labor promises to improve the way they do business together; to help meet business demand for an educated workforce; to help individuals—with varying needs and abilities—access credentials, careers and economic security; and to strengthen our economies and communities.

## Notes

1. For example, adults with low literacy skill levels cannot find the name of a particular congressperson within a summary information sheet that lists the congressional district, the name of the district's representative, and the representative's date and place of birth. Adults with low numeracy skills are unlikely to be able to calculate the total cost of a daily car rental when provided with miles driven that day, cost per day, and the cost per mile driven. (Examples drawn from the American Institutes for Research PIACC Gateway; see [www.piacgateway.com](http://www.piacgateway.com).)
2. Publicly funded examples include but are not limited to the Department of Labor's 2010–2011 Career Pathway Institute and the Trade Adjustment Assistance Community College and Career Training grants; the Department of Education's Advancing Career and Technical Education in Career Pathways initiative and the Moving Pathways Forward initiative; and Innovative Strategies to Improve Self-Sufficiency and Health Profession Opportunity Grants administered by the U.S. Department of Health and Human Services. Philanthropic examples include the Ford Foundation's Bridges to Opportunity initiative, the multifunder Accelerating Opportunity, and the Joyce Foundation's Shifting Gears initiative.
3. Contextualization is an instructional technique that integrates concepts from occupational areas, industries, or sectors with basic skills education.
4. Also see the summary of the research in Foster, Strawn, and Duke-Benfield (2011).
5. According to the AQCP, a career pathway system is the cohesive combination of partnerships, resources and funding, policies, data, and shared performance measures that support the development, quality, scaling, and dynamic sustainability of career pathways and programs for youth and adults.
6. A 2013 implementation study of the 2011 FastTRAC grantees showed that, on average, 57 percent of participants entered the program at or below the 6th–8th grade education level, 31 percent of participants had no wages prior to enrollment, and 53 percent had annual wages of \$20,000 or less. (See Burns et al. [2013].)

7. Minnesota FastTRAC defines contextualized basic skills instruction as building foundational academic and technology skills within an occupational context to prepare for college level work.
8. The integrated course consists of an ABE instructor and a technical instructor teaching in the same classroom.
9. Personal communication with Nola Speiser, April 25, 2014.
10. This program is in its first year of operation; participant numbers will be forthcoming.
11. Employment retention is defined as the proportion of people employed during the first quarter after exit who are also employed during the second and third quarters after exit.
12. Fifty-three percent of all exiters during 2010–2012 had wages in all four quarters after exit. For the exiters who had wages in any of the four quarters after exit (but not all quarters), their average wage increase was 23 percent from an average of \$13,136 to \$16,101. As with the other group of exiters, the average wage increase has steadily increased over the reporting period.
13. Minnesota FastTRAC staff is tracking the number of FastTRAC completers who return to the educational pathway after having been in the workforce. Because many FastTRAC program graduates who left for work have been working for just a few years, this longitudinal data will emerge over time.
14. Dynamic sustainability means not only continuing career pathways, programs, and systems beyond initial development, but also supporting their adaptation and continuous improvement over time based on experience, new information, data, and outcomes. In some cases, it may mean discontinuing career pathways and programs that are not working or no longer in demand.
15. Funding sources included the federal Workforce Investment Act (WIA) Title II adult education discretionary funds (\$300,000), WIA Incentive funds (\$650,000), Greater Twin Cities United Way (\$300,000), and Department of Human Services TANF (public assistance) Innovation Funds (\$250,000).

## References

- Alliance for Quality Career Pathways. 2014. *Shared Vision, Strong Systems: The Alliance for Quality Career Pathways Framework Version 1.0*. 2014. Washington, DC: Center for Law and Social Policy.
- Bailey, Thomas, Shanna Smith Jaggars, and Davis Jenkins. 2001. *Introduction to the CCRC Assessment of Evidence Series*. New York: Community College Research Center, Teachers College, Columbia University.
- Bragg, Debra, Tim Harmon, Catherine L. Kirby, and Sujung Kim. 2009. *Initial Results of Illinois' Shifting Gears Pilot Demonstration Evaluation*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois Urbana–Champaign.
- Burns, Melanie, Susan Lindoo, Julie Dincau, Rachel Speck, and Dana

- DeMaster. 2013. *Implementation Study of 2011 Adult Career Pathways*. St. Paul, MN: Minnesota FastTRAC Initiative, Department of Employment and Economic Development.
- Carnevale, Anthony P., Nicole Smith, and Jeff Strohl. 2010. *Help Wanted: Projections of Jobs and Education Requirements through 2018*. Washington, DC: Georgetown University Center on Education and the Workforce.
- Choitz, Vickie, Louis Soares, and Rachel Pleasants. 2010. *A New National Approach to Career Navigation for Working Learners*. Washington, DC: Center for American Progress.
- Fein, David J. 2012. *Career Pathways as a Framework for Program Design and Evaluation: A Working Paper from the Innovative Strategies for Increasing Self-Sufficiency (ISIS) Project*. OPRE Report 2012-30. Bethesda, MD: Abt Associates.
- Foster, Marcie, Julie Strawn, and Amy Ellen Duke-Benfield. 2011. *Beyond Basic Skills: State Strategies to Connect Low-Skilled Students to an Employer-Valued Postsecondary Education*. Washington, DC: Center for Law and Social Policy.
- Goodman, Madeline, Robert Finnegan, Leyla Mohadjer, Tom Krenzke, and Jacquie Hogan. 2013. *Literacy, Numeracy, and Problem Solving in Technology-Rich Environments among U.S. Adults: Results from the Program for the International Assessment of Adult Competencies 2012: First Look*. NCES 2014-008. Washington, DC: National Center for Education Statistics, U.S. Department of Education.
- Jenkins, Davis, Matthew Zeidenberg, and Gregory S. Kienzl. 2009. *Educational Outcomes of I-BEST, Washington State Community and Technical College System's Integrated Basic Education and Skills Training Program: Findings from a Multivariate Analysis*. New York: Community College Research Center, Teachers College, Columbia University.
- Linderman, Donna, and Zineta Kolenovic. 2009. *Early Outcomes Report for City University of New York (CUNY) Accelerated Study in Associate Programs (ASAP)*. New York: City University of New York and the NYC Center for Economic Opportunity.
- Minnesota State Colleges and Universities. 2013. *Enrollment, Persistence, Graduation, and Employment of Adult Basic Education and FastTRAC Participants at Minnesota State Colleges and Universities*. St. Paul, MN: MnSCU System Office Research, Planning and Policy.
- Reimherr, Patrick, Tim Harmon, Julie Strawn, and Vickie Choitz. 2013. *Reforming Student Aid: How to Simplify Tax Aid and Use Performance Metrics to Improve College Choices and Completion*. Washington, DC: Center for Law and Social Policy.
- Roberts, Brandon, and Derek Price. 2012. *Strengthening State Systems for*

- Adult Learners: An Evaluation of the First Five Years of Shifting Gears.* Chicago: The Joyce Foundation.
- Scrivener, Susan, and Michael J. Weiss. 2009. *More Guidance, Better Results? Three Year Effects of an Enhanced Student Services Program at Two Community Colleges.* MDRC's Opening Doors Project. New York: MDRC.
- Strawn, Julie. 2011. *Farther Faster: Six Promising Programs Show How Career Pathway Bridges Help Basic Skills Students Earn Credentials That Matter.* Washington, DC: CLASP.
- U.S. Department of Education. 2010. "Use of Funds Provided under the Adult Education and Family Literacy Act (AEFLA) for Integrated Education and Training (IET)." Program Memorandum FY 2010-02. Washington, DC: U.S. Department of Education. <http://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/aepla-funds-for-iet.pdf> (accessed September 10, 2014).
- U.S. Department of Labor (USDOL). 2010. "Joint Letter on Career Pathways from the U.S. Department of Labor's Employment and Training Administration, the U.S. Department of Education's Office of Career, Technical, and Adult Education, and the U.S. Department of Health and Human Services' Administration for Children and Families." TEN 36-11, April 4. Washington, DC: USDOL. [http://wdr.doleta.gov/directives/attach/TEN/ten2\\_36\\_11.pdf](http://wdr.doleta.gov/directives/attach/TEN/ten2_36_11.pdf) (accessed February 3, 2015).
- Werner, Alan, Catherine Dun Rappaport, Jennifer Bagnell Stuart, and Jennifer Lewis. 2013. *Literature Review: Career Pathways Programs.* OPRE Report No. 2013-24. Cambridge, MA: Abt Associates.
- Wiseley, W. Charles. 2011. "Effective Basic Skills Instruction: The Case for Contextualized Developmental Math." PACE Brief 11-1. Stanford, CA: Stanford University.
- Zeidenberg, Matthew, Sung-Woo Cho, and Davis Jenkins. 2010. *Washington State's Integrated Basic Education and Skills Training Program (I-BEST): New Evidence of Effectiveness.* New York: Community College Research Center, Teachers College, Columbia University.



# 11

## **Capital IDEA and Austin Community College**

### **A Case Study of a Nonprofit- Community College Partnership**

Matt Helmer  
Maureen Conway  
*Aspen Institute*

Postsecondary credentials are increasingly important for workers in today's economy. Nearly two-thirds of the 30 fastest-growing jobs through 2022 typically require a postsecondary education, according to the Bureau of Labor and Statistics (2013). A postsecondary education is also linked to higher earnings. According to research conducted by the Center on Education and the Workforce at Georgetown University, workers with at least some college earn slightly more than \$1.5 million on average over the course of their careers, which is \$250,000 more than workers with only a high school diploma. Workers with an associate's degree earn a little over \$1.7 million during their lifetimes (Carnevale, Rose, and Cheah 2011). These of course are averages, and the proportion of college graduates who find themselves employed in low-quality, noncollege jobs has increased over the past decade (Abel, Deitz, and Su 2014). Course of study matters, however, and at both the subbaccalaureate and baccalaureate levels, the quality of employment outcomes varies markedly according to type of certificate or degree (Fry and Parker 2012; Hanson, Carnevale, and Rose 2012). General recognition of the importance of postsecondary education to economic success has played a role in the increased college enrollment and college attainment we've seen over the past decade (Fry and Parker 2012). And, given the cost of postsecondary degrees, more and more students are turning to community colleges for postsecondary education.

According to the American Association of Community Colleges, nearly half of today's college students are enrolled at community colleges, many of whom represent a new type of student. They are more racially and ethnically diverse, and many of them are also working, older, low-income, and parents. The most recent data on community college enrollment showed nearly 13 million students enrolled in community college in fall 2009, including 8 million students who enrolled in for-credit courses, and approximately 5 million who enrolled in noncredit coursework. Nearly 60 percent of these students enrolled part time. The majority of community college students, 57 percent, were women, and over one-third were racial or ethnic minorities. The students' average age was 28, and 15 percent of students were over age 40. More than 40 percent of these students were first-generation college students, and most were employed full or part time while in school (American Association of Community Colleges 2012).

Many of these students face significant challenges in community college. Students unfamiliar or inexperienced with postsecondary education may struggle to navigate the college bureaucracy, such as financial aid and registration processes. Some students do not know what skills are in demand in their labor market or what occupations they should pursue. Many lack the basic skills they need to succeed in the classroom; others lack the professional networks and job search and interview skills they need to successfully transition to the labor market. Personal and family responsibilities can also be barriers. Seventy-five percent of today's community college students are juggling family responsibilities, work, and school (Complete College America 2011). These students often need a range of support services such as assistance with child care, transportation, or covering the costs of tuition and fees. As a result of these challenges, many community college students are finding success difficult to achieve.

Part-time students, as well as minority and low-income students, are much less likely than other community college students to earn a degree or certificate. Older students who attend part time also struggle to complete a degree or certificate (Complete College America 2011). The primary reason that students drop out of community college and university is the stress of combining work and school, according to a national survey of college students aged 22–30 (Public Agenda 2009).

Many community colleges are responding with new strategies to meet the needs of today's workforce. Funding challenges and institutional constraints, however, limit how much colleges can do alone. In many communities, nonprofit organizations are partnering with community colleges to help students overcome these challenges to succeed in the classroom and labor market. The Aspen Institute's Workforce Strategies Initiative (AspenWSI) identified and named these collaborations Courses to Employment (C2E) partnerships. This case study will discuss findings from AspenWSI's research into C2E partnerships and present a case study on a partnership between Capital IDEA, a nonprofit organization, and Austin Community College.

## **COMMUNITY COLLEGE-NONPROFIT PARTNERSHIPS: COURSES TO EMPLOYMENT STRATEGIES**

Courses to Employment partnerships, as defined by AspenWSI, are collaborations between community colleges and workforce nonprofit organizations that use a range of strategies and combine the strengths of each institution to serve students more effectively than either could alone. Most of these partnerships target a specific industry or cluster of occupations, developing a deep understanding of the interrelationships between business competitiveness and the workforce needs of the targeted industry. These partnerships support students to improve their workplace skills and persist on an education pathway in pursuit of a higher-quality job. Along the way, partnerships provide motivational support and counseling, as well as access to needed social services and academic supports, including basic skills development. As workers transition to the workplace or aim to climb the career ladder, partnerships may provide labor market navigation services that help students find jobs and build the professional networks and communication skills they need to retain jobs and succeed within a local industry.

While many partnerships share similar goals, their work is often structured and organized in different ways. For example, some partnerships focus on short-term vocational skills training, and others have students pursue associate degrees. In some cases, the nonprofit provides

most of the training, and in others the college assumes all the responsibility for curriculum design and instruction. However, most of these partnerships have three common elements: 1) a high-quality education program that has a clear link to in-demand employment opportunities and provides appropriate technical skills training and basic skills development, 2) a range of student academic and nonacademic support services, and 3) an industry strategy that focuses on meeting business needs and helping students enter and succeed in the local labor market.

Partnerships leverage each other's institutional competencies and resources in different ways to serve their students. The activities and services of partnerships often differ because they serve different worker populations and businesses, use and have access to different funding streams, have different institutional strengths and weaknesses, and operate in different policy and regulatory environments. Because each partnership is unique and customized based on these factors, the field of nonprofit-community college partnerships consists of a rich and diverse set of strategies and approaches.

In 2013, the AspenWSI conducted a national survey of nonprofit-community college partnerships that generated responses representing 177 partnerships that demonstrated a lot of diversity in approach. Nonprofits engaged in partnerships with colleges represent a mix of institutions, including community-based organizations, funder collaboratives, union-affiliated nonprofits, worker centers, and Workforce Investment Boards. Table 11.1 summarizes some of the survey findings (Aspen Institute Workforce Strategies Initiative forthcoming).

In the next section of this case study, we profile a partnership between Capital IDEA and Austin Community College to provide a better understanding of what a Courses to Employment collaboration does, and how nonprofit organizations and community colleges can work together to support the success of low-income students.

## **CASE STUDY: CAPITAL IDEA AND AUSTIN COMMUNITY COLLEGE**

### **Partnership History**

In the late 1990s, many hospitals, semiconductor companies, and businesses in Austin were finding it difficult to find skilled workers, and many families were struggling to make ends meet as the cost of living rose in the Austin area. Local policymakers had attracted semiconductor plants with tax incentives. In response, Austin Interfaith, a broad-based coalition of religious congregations, schools, unions, and other community institutions of the Industrial Areas Foundation, worked to hire disadvantaged workers and create a policy that links abatements to a fund for high-skill, long-term training (Bennett and Giloth 2008). When Samsung located a plant in Austin, it proposed to hire operators at low wages. Austin Interfaith organized the community to ensure a higher starting wage.

Around the same time, Austin Interfaith created Capital IDEA—based on Project Quest, an initiative of Austin Interfaith’s sister organization in San Antonio—to help lift Central Texas working families out of poverty by providing supports, counseling, and connection to educational services that lead to lifelong financial independence. Using funding from the new long-term job training fund established by the Samsung tax abatement deal, this program began preparing disadvantaged workers to become semiconductor technicians, as well as other high-skill occupations. Through this early work, Capital IDEA established the organization’s guiding framework for identifying living wage jobs in their labor market, and then creating education pathways to those jobs. Today, Capital IDEA works with students and employers in a variety of industries, including health care, technology, and the trades, as a sponsor of educational services for Austin’s low-income workers. A central component of the program’s strategy is to work with local community colleges and training providers to supply those educational services.

Capital IDEA’s partnership with Austin Community College (ACC) began in 1999 in part through an introduction by leaders at Austin Interfaith. Capital IDEA and ACC jointly developed the College Preparatory

**Table 11.1 Courses to Employment Partnerships: Summary Findings from a National Survey**

Student populations served	Partnerships are designed to serve numerous populations. The highest percentages of partnerships identified low-income individuals, adults with limited or no work history, youth between the ages of 18 and 26, and ethnic, racial minorities as among populations they most commonly serve.
Industries targeted	Nearly 80 percent of partnerships reported that they are preparing students for employment in a particular industry or set of occupations. Partnerships responding to the survey commonly cited health care, manufacturing, construction, and information technology as industries within which they are preparing students for employment.
Training provided	Partnerships provide a variety of different types of training, including basic and technical skills education. Sixty-four percent of partnerships reported offering training in credit certificate programs, 60 percent reported offering noncredit vocational skills training, and 43 percent reported supporting students in associate degree programs.
Support services and job placement assistance provided	Partnerships provide a range of support services and job placement assistance. Over 80 percent of partnerships reported providing case management services, and nearly 90 percent of partnerships provide job search assistance. Many partnerships also reported providing assistance with transportation, monetary assistance to help cover the cost of tuition and living expenses, and assistance with obtaining uniforms, tools, or other work supplies.
Industry engagement activities	Over 80 percent of partnerships said businesses inform their curriculum design or career pathways development, and almost 60 percent of partnerships said businesses provide in-kind resources such as materials, equipment, or training space. Eighty percent of partnerships said partnering businesses hire students, and 60 percent said businesses provide internships. Almost 60 percent of partnerships reported that businesses provide in-kind resources. Fewer partnerships, however, said businesses provide monetary resources to support the partnerships' work.

Partners' roles and responsibilities	In C2E partnerships, community colleges typically assume responsibility for delivering training, nonprofits usually manage support services and job placement activities, and both institutions often play a strong role in engaging industry and business partners.
Partnership funding	Nonprofits and colleges use many different funding streams to finance their partnership work. Both nonprofits and colleges commonly identified the Workforce Investment Act, philanthropic foundations, and state government dollars as among the top funding sources their organization uses to support the partnerships' work.
Outcomes of students served by partnerships	Over 80 percent of nonprofits said a student served by their partnership typically obtains employment in a training-related field, obtains any kind of employment, and/or receives a wage increase or promotion. Nearly half of community colleges said students served by their partnership are more likely to complete their educational goals than students in similar training programs at the college, and 40 percent said students served by the partnership find training-related jobs more easily than other students in similar training programs.

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SOURCE: Aspen Institute Workforce Strategies Initiative (forthcoming).

Academy as an alternative to the traditional developmental education model after recognizing that many adult learners in Austin could not pass the college entrance exam and were not prepared to enter college course work. The academy serves as an important bridge into the college's vocational and technical skills training for Capital IDEA-supported students. Nearly a year after beginning the partnership, the collaborative graduated its first students from the Licensed Practical Nursing program. Today, the partnership supports hundreds of students each year in various programs and continues to develop new innovations and supports in response to the needs of its students.

Between 2003 and 2008, Capital IDEA enrolled 991 students into its health care training pathways program with ACC. Eighty-eight percent of these students were female, 44 percent were Latino, and 26 percent were African American; the median age of students was 27. Over one-third of the students were single parents (Helmer and Blair 2011). As described in the rest of this case study, Capital IDEA provides an extensive amount of support and financial assistance, which includes covering the costs of tuition and fees to their students, with funding primarily coming from local government and foundations.

### **Education Strategy**

ACC delivers all related academic education and training to Capital IDEA-supported students, including the College Prep Academy, which prepares Capital IDEA participants to pass the Texas Higher Education Assessment, a prerequisite to enter community college in Texas. Students receive over 300 hours of instruction from ACC faculty in reading, writing, mathematics, test taking, and study skills through the training that operates six hours a day, five days a week, for 12 weeks. Students who need additional math instruction can opt for another 12 weeks of instruction (half-time).

To help participants address the financial burdens of pursuing post-secondary education, Capital IDEA fully funds all education-related costs, including tuition, fees, books, supplies, uniforms, and vaccinations. Capital IDEA allows students who qualify for Pell Grants to keep those resources to help cover essential, ongoing living expenses.

ACC provides the training and instruction to Capital IDEA-supported students for the in-demand careers they are pursuing. Prior to entering an educational program, these students undergo a thorough

assessment that includes Student Assessment of Growth and Excellence testing to assess the students' vocational interest, skills interests, learning styles, and aptitudes; a Test for Adult Basic Education testing for math and reading academic levels; an interview to evaluate the participant's motivation and commitment to the program; and assessments designed to determine what barriers students face that may prevent their success in the classroom and labor market.

Capital IDEA career navigators and the participant use the assessments to craft an agreed-upon customized education and career plan that may include attending the College Prep Academy or applying for and entering a vocational program at ACC. The plan is also developed based on availability of training slots at the college and labor market information gathered by the partnership about high-demand occupations. While Capital IDEA strives to ensure students are matched with a career opportunity that meets the students' interests, the organization is demand-driven and will only fund and support students in training that leads to employment.

Prior to acceptance by Capital IDEA, participants may be asked to do more career exploration, meet with an ACC recruiter, or attend an ACC information session, change their housing situation to reduce living expenses, or resolve outstanding financial debts. Some may be referred to other partnering organizations to improve their English language skills or earn their General Educational Development. Capital IDEA is also actively preparing participants for college advising and is in close communication with career counselors at the college about participants' needs and progress as they begin and continue their studies.

ACC provides a wide range of for-credit certificates and degrees in the allied health, technology, and trades fields, including training for dental hygienists, licensed vocational nurses, registered nurses, carpenters, and automotive technicians. Extra tutoring and study skills instruction are available to students, and Capital IDEA coordinates a comprehensive package of support services to support students in training, as described in the next section.

### **Support Service Strategy**

Capital IDEA coordinates and manages a wide array of student support services, financial assistance, and career and college navigation. In addition to the individualized assessment, career counseling, and

academic planning described earlier, the program helps students navigate the college experience. It provides individualized assistance with college enrollment, course sequencing, and financial aid processes. It also teaches participants how to navigate financial aid and registration processes at the college, and serves as a student advocate when needed. Capital IDEA may help participants address administrative obstacles to enrollment and registration, such as appealing poor academic records from previous study or paying past due parking or library fines.

In addition to covering students' academic expenses as noted earlier, Capital IDEA also provides direct financial assistance for nonacademic needs such as child care, transportation, and emergency-related living expenses. The program's wide network of community partners also helps provide assistance in these areas when needed. Though its students are generally encouraged not to work so they can focus on their studies, Capital IDEA recognizes that this is not possible for all students and helps those who need to work find interim employment opportunities while in training to help cover their living costs.

Capital IDEA continues to provide financial support and intensive case management services until graduation and placement, often two to five years. Career navigators meet with most participants regularly, in peer group sessions and one on one, while they are in training. ACC and Capital IDEA staff and faculty collaborate in a variety of ways in order to make this support system effective. The college developed a waiver system that allows faculty and staff to share information with career navigators about individual students' progress and challenges in real-time. Staff in numerous departments communicate with career navigators to keep them informed about advising, registration, and course requirements. ACC also regularly invites navigators to attend staff information sessions where information that is relevant to students is shared. Consistent communication among Capital IDEA staff, participants, and college staff allows the partnership to quickly identify students who are struggling and provide the necessary supports in response.

To keep students motivated, Capital IDEA organizes and facilitates regular peer support sessions that are held at locations and times that are convenient to students—usually where they attend classes. Sample topics include communications with instructors, self-esteem, budgeting, dealing with professors, attitude, accountability, and personality.

## **Industry Strategy**

The partnership between Capital IDEA and ACC aims to prepare students for high-demand careers that provide self-sufficient wages. To meet this goal, the partnership must stay attuned to what jobs are in demand, who is hiring, and what skills and education students need to obtain those jobs. To gather that information, the partners work to develop and sustain close relationships with businesses in high-demand sectors in their region, such as allied health, and they engage business partners at several levels and points of contact. Both ACC and Capital IDEA are members of the Healthcare Workforce Alliance of Central Texas, an industry-led and community-sponsored group that exists to address collectively the workforce needs of the health care industry in Austin. Members include community colleges, universities, high school tech programs, major hospitals, and many other smaller health care providers. The partnership also relies on labor market intelligence and regional economic forecasts from local area chambers and Workforce Solutions, the local Workforce Investment Board, to inform the partnership's strategy.

ACC learns about businesses' needs to inform their curricula and educational strategies through other business relationships as well. For example, businesses, such as hospitals, contract with ACC to provide them employer-specific incumbent worker training. Some hospitals with long-standing relationships with ACC help to pay for lab equipment, fund faculty salaries, provide clinical slots for health care students, and provide other in-kind support. ACC often collaborates with businesses on grant proposals, and many business leaders serve on ACC's advisory committees.

Capital IDEA, which is primarily responsible for connecting students served by the partnership to jobs, maintains a consistent, real-time dialogue with businesses to stay informed about their employment projections and workforce needs. Program staff work to create close relationships and formal agreements with local businesses, some of which have representation on Capital IDEA's board of directors. By conducting ongoing information gathering about health care and other in-demand careers from the businesses directly, Capital IDEA is able to obtain real-time labor market information, including base employment

projections and actual starting wages, which can be different from that of broader regional forecasts. Placement staff use this information to steer students toward businesses that are hiring as they approach graduation. On occasion, businesses have paid Capital IDEA a placement/retention fee after hiring a graduate supported by Capital IDEA, as described further in the next section.

### **Partnership Costs and Funding**

Per student costs for Capital IDEA–supported students can vary greatly. Some students need more intensive support services and/or a longer time frame to complete their educational goals. Capital IDEA’s extensive use of referral organizations to provide additional support services and assistance are unaccounted costs that can also mask the full costs of supporting students. The organization also provides case management, counseling, and structured peer supports to students, which are costs that also cannot be attributed to an individual student.

To help one student obtain her certificate as a Licensed Vocational Nurse, Capital IDEA provided nearly \$16,000 in direct support over a six-year period, with the majority of the support going to tuition (47 percent) and child care (29 percent), books (9 percent), and rental assistance (5 percent). For this particular student, Capital IDEA used nine different funding streams to support these costs (Conway 2011).

Capital IDEA spends a significant amount of resources paying for students’ tuition, books, and other financial assistance, such as child care. It budgeted more than \$1.2 million for tuition, books, and educational costs out of an overall budget of \$3.4 million in 2014. Financial assistance for child care, transportation, housing, utilities, and other living expenses account for another nearly \$300,000. In total, direct payments for tuition, books, and other supports account for approximately 45 percent of the program’s budget for supporting students in training programs. Capital IDEA devoted the other 55 percent of the budget to covering staff salaries for the industry engagement, career navigation, and case management activities, as well as necessary operating expenses and administrative functions.

As noted earlier, students may spend anywhere from a few to several years with Capital IDEA pursuing their education. Some students may take breaks in their studies, and others may persist straight through

to completion. Capital IDEA may be actively supporting upward of 800 students per year in its training programs in any given year. The organization estimated total per participant costs at \$4,254 in 2014.

The partnership between Capital IDEA and ACC often draws on a mix of funding streams to support students. Capital IDEA has a very diverse funding base, including public and private sources, that allows it to provide and sustain over time a wide variety of critical nonacademic services to students. In fiscal year 2008, Capital IDEA obtained approximately \$4.2 million in funding from 21 different sources to support students in training. The organization obtained funding from 3 national philanthropic sources, 11 regional or local philanthropy sources, 3 federal government sources, 3 local government sources, and 1 state government source. Local government was the organization's largest funding source, accounting for nearly 44 percent of its revenue. Another 40 percent of funding came from national, regional, and local philanthropic sources, 4 percent from federal government, 6 percent from business or corporate contributions, and 4 percent from individual donors (Conway 2011).

Capital IDEA is unusual in the nonprofit workforce development field in that it receives substantial amounts of funding from city and county general revenues. With the support of active advocacy organized by Austin Interfaith, Capital IDEA has been able to make the case for public investment in its strategies. The positive outcomes brought about by the partnership's work have helped convince the local public sector to make these investments. The general revenue funds provided by Austin and Travis County to Capital IDEA are used to pay for support services, as well as tuition at ACC. This allows students to keep Pell Grants and use those funds for income support while in training. Donations from foundations, corporations, and individuals are another critical source of funding the program obtains to support its efforts. It receives private sector support through formal agreements with several health care employers who pay a \$5,000–\$8,000 retention fee over eight quarters after hiring a registered nursing graduate who was supported by Capital IDEA.

In addition, the partnership benefits from active and long-term collaboration with WIA-funded WorkSource Career Centers. WorkSource coenrolls eligible Capital IDEA-supported students into WIA for the final 1.5 years of training. These students qualify for Individual Training

Accounts to pay for tuition, fees, books, gas cards worth \$200/month, uniforms, required tools, crisis payments for things such as utilities or car repairs that would be a barrier to completing school, and sometimes child care.

ACC was also recently awarded a grant from the Department of Labor Trade Adjustment Assistance Community College and Career Training. The grant is being used in part to support some new strategies the partnership is pursuing, as discussed in the next section.

### **Innovations and Future Directions**

Capital IDEA and ACC founded the College Prep Academy in the early stages of their collaboration, a critical innovation that provided an alternative to developmental education and provided a framework for the partnership to use to test new educational and support strategies. Capital IDEA students serve as one of the college's testing grounds for experimenting with different types of strategies, and the feedback Capital IDEA provides to the college about its services helps ACC continuously adapt and improve based on the changing needs of students.

After the partners discovered that many students were failing their allied health prerequisite courses, ACC, with the funding from the Department of Labor, founded the Health Professions Academy to develop and deliver individualized, computer-based education to improve the prerequisite completion rate for students pursuing a health care career. Capital IDEA provided key input and advice on the structure of the academy based on their students' experience. With assistance from Capital IDEA, ACC is also redesigning prerequisite courses to be more interactive and include more hands-on training. ACC redesigned a biology prerequisite and is in the process of redesigning anatomy and physiology courses.

The process for exchanging ideas and information among the partners has also led to other important changes in service delivery. Capital IDEA has also intensified its efforts to support students through prerequisites and is colocating eight of its career navigators on a new ACC campus so they can be more readily available to students who need support. The partnership is exploring other new approaches that will facilitate accelerated learning and competency-based training.

## **Student Outcomes**

The partnership's work led to some impressive educational and employment outcomes for students, according to a study completed by the Aspen Institute (Conway, Blair, and Helmer 2012). Over 80 percent of the 358 students enrolled in the partnerships' College Preparatory Academy between 2003 and 2009 completed the academy and passed the Texas Higher Education Assessment, qualifying them for entry into community college coursework. Of students enrolled during this same time period, 193 had received a credit certificate or associate's degree in an allied health field by the time Aspen's study ended. In the year following completion, 96 percent of these students were employed and earning a median salary of over \$44,000 per year, over three times more than their median salary of \$13,545 they had earned in the year prior to enrolling with Capital IDEA.

Capital IDEA and ACC's partnership stands out as an example of what two very different institutions can do to leverage one another's strengths and support the success of low-income students. The increased capacity and ability to improve student outcomes is a top benefit of these partnerships, according to many nonprofit organizations and community colleges that participated in AspenWSI's survey.

## **BENEFITS OF NONPROFIT-COMMUNITY COLLEGE PARTNERSHIPS**

The outcomes demonstrated by Capital IDEA and ACC, as well as other partnerships researched by the AspenWSI during the Courses to Employment demonstration project, show that these collaborations are a promising approach to helping students get the credentials and skills they need to connect to better employment and higher wage opportunities. These types of outcomes and the ability to reach and serve students with barriers are some of the most commonly cited benefits as to why partners engage in these collaborations, according to AspenWSI's survey of nonprofit-community college partnerships.

Nonprofit organizations participating in AspenWSI's survey of partnerships reported that one of the top benefits from their partnership

is the access to quality training opportunities and college credentials with labor market value the college provides to their worker constituency. They also noted that a top benefit was the positive education and employment outcomes they saw students achieve as a result of the collaboration. Some nonprofits said the partnership improved their ability to meet industry needs and improved their relationships and networks with business partners. Many nonprofit organizations also reported that the ability to leverage different resources and expertise from the college was another top benefit.

Community colleges reported that their collaboration allowed them to better serve their communities and a wider population of students, many of whom the college may not typically reach. One respondent said, “The partnership helps the college reach a population that may not otherwise make it to the campus.” Colleges also said the ability to provide support services and the network the partnership provided to community resources is beneficial. Similar to nonprofit responses, colleges also noted that the nonprofit’s access to different types of funding is beneficial and that improved student outcomes are also an advantage of these collaborations. Despite all these benefits, creating, sustaining, and expanding partnerships can be challenging.

## **CHALLENGES OF NONPROFIT–COMMUNITY COLLEGE PARTNERSHIPS**

Nonprofit and community colleges face numerous challenges in creating, sustaining, and expanding their partnerships. AspenWSI observed partnerships struggling to balance different institutional goals and missions, to collect and analyze data, and to find enough resources to serve students with multiple barriers. The survey of partnerships conducted by AspenWSI confirmed many of these observations.

According to AspenWSI’s survey results, over 80 percent of colleges and nonprofits said that sustaining resources to maintain or grow the partnership is a challenge, and 72 percent of both colleges and nonprofits said recent government funding cuts are a challenge (Aspen Institute Workforce Strategies Initiative forthcoming). When asked

open-ended questions about their top challenges, nonprofits and colleges again reported that funding is a big challenge.

Nonprofits also commonly reported that working across institutions with different goals, missions, and cultures can be difficult, and that working with the bureaucracy of the college system can pose challenges. According to one nonprofit respondent, “The college operates in silos, so when we want to work across departments it can be challenging.” Colleges also noted that different institutional cultures create a number of challenges. According to one college respondent, “We operate in different spheres, with different reporting requirements and ‘language.’ Sometimes people do not adequately understand the challenges faced by the other members of the partnership.”

Colleges also reported that data collection and sharing is challenging. Eighty percent of colleges and 60 percent of nonprofit organizations agreed that collecting, evaluating, and reporting employment outcomes is a challenge for their partnership. Many nonprofits and colleges also said sharing data about student outcomes between their institutions is an issue. Helping partnerships overcome these challenges so the field can learn and grow from its success and failures in helping students complete their education and find employment will be critical to this emerging field’s success.

## **CONCLUSION AND RECOMMENDATIONS**

Today, many workers seek to upgrade their skills in order to compete for better-wage jobs. Unfortunately, too many of them lack the supports, guidance, and resources they need to gain appropriate skills and connect to better opportunities. By addressing these needs, these partnerships provide opportunity to a variety of low-income workers seeking to obtain a better education and a better job. In an era of funding cuts, however, these partnerships are struggling to put together the resources they need to support these workers. Federal, state, and local policymakers all have a role to play in supporting these partnerships and ensuring adequate investments are maintained so that workers have the educational opportunities and labor market connections they need. In

an era of shrinking public resources, investing in partnerships is the best way to reduce inefficiencies. In particular, organizations that provide support services (so working adults have the time to participate meaningfully in an education opportunity) and offer industry intelligence and networking services (to help workers pursue credentials that will likely lead to better jobs and connect with employers looking for their skills) need greater support. More action needs to be taken to ensure sufficient funding is directed to these nonprofits so that workers pursuing education can succeed in school and in work.

Along with the direct support these partnerships need to provide services, they also need resources to improve their strategies and work together. This field of collaborative practice between nonprofit organizations and community colleges is still emerging. Over 50 percent of partnerships surveyed by AspenWSI are less than four years old. Investing in and incentivizing the start-up and expansion of nonprofit–community college partnerships right now is critical, as millions of workers continue to struggle and many partnerships report challenges in obtaining the resources they need to maintain or expand their work.

As illustrated throughout this case study, these collaborations are complex undertakings and can take time and resources to build. Partners must build trust and relationships with one another, identify common goals, develop industry engagement strategies, and create communication and project management processes. The field of C2E partnerships needs opportunities to learn about the practices and strategies of other partnerships. Investors should create opportunities for convening and information sharing among the field. Helping colleges and nonprofits build the organizational capacities, cross-institutional knowledge, and relationships they need to engage in these partnerships will help this field of practice develop more quickly, which can only serve to meet the needs of a greater number of workers and businesses.

Finally, the collection and use of student outcomes data are critical to how partnerships design their services and training. Quite simply, many partnerships are experimenting with a variety of instructional approaches, support services, and industry engagement strategies, and they need to know if their actions are leading to positive education and employment outcomes for their students. Collecting, managing, and analyzing this type of data, however, is not easy and it also requires resources. The data often reside within different institutions or, in the

case of employment data, within a government agency. Sometimes the partnerships have access to these data and sometimes they do not. Assuming they do have access, partnerships may still struggle to collect and merge the data from the college, nonprofit organization, and outside agencies. Policymakers and investors need to work to open up more data to these partnerships and provide them with the resources and assistance they need to make use of it. Turning this field into one that is driven by data on student outcomes will help ensure the resources are spent efficiently and effectively.

## References

- Abel, Jaison R., Richard Deitz, and Yaqin Su. 2014. "Are Recent College Graduates Finding Good Jobs?" *Current Issues in Economics and Finance* 20(1): 1–8.
- American Association of Community Colleges. 2012. *Reclaiming the American Dream: A Report from the 21st-Century Commission on the Future of Community Colleges*. Washington, DC: American Association of Community Colleges. [http://www.insidehighered.com/sites/default/server\\_files/files/21stCentReport.pdf](http://www.insidehighered.com/sites/default/server_files/files/21stCentReport.pdf) (accessed September 12, 2014).
- Aspen Institute Workforce Strategies Initiative. Forthcoming. Unpublished data from a report on a national survey of nonprofit–community college partnerships. Washington, DC: Aspen Institute.
- Bennett, Michael I. J., and Robert P. Giloth. 2008. *Economic Development in American Cities: The Pursuit of an Equity Agenda*. Albany, NY: State University of New York Press.
- Bureau of Labor and Statistics. 2013. *Employment Projections 2012–2022*. Washington, DC: Bureau of Labor and Statistics. <http://bls.gov/news.release/ecopro.nr0.htm> (accessed March 10, 2014).
- Carnevale, Anthony P., Stephen J. Rose, and Ban Cheah. 2011. *The College Payoff: Education, Occupation, Lifetime Earnings*. Washington, DC: Georgetown University Center on Education and the Workforce. <http://cew.georgetown.edu/collegepayoff> (accessed March 30, 2014).
- Complete College America. 2011. *Time Is the Enemy: The Surprising Truth about Why Today's College Students Aren't Graduating . . . And What Needs to Change*. Washington, DC: Complete College America. [http://www.completecollege.org/docs/Time\\_Is\\_the\\_Enemy\\_Summary.pdf](http://www.completecollege.org/docs/Time_Is_the_Enemy_Summary.pdf) (accessed March 20, 2014).
- Conway, Maureen. 2011. "The Price of Persistence: How Nonprofit-Comm-

- nity College Partnerships Manage and Blend Diverse Funding Streams.” *Courses to Employment 2*: 120. Washington, DC: Aspen Institute <http://aspenswi.org/wordpress/wp-content/uploads/11-005.pdf> (accessed June 20, 2014).
- Conway, Maureen, Amy Blair, and Matt Helmer. 2012. *Courses to Employment: Partnering to Create Paths to Education and Careers*. Washington, DC: Aspen Institute. <http://www.aspenswi.org/wordpress/wp-content/uploads/C2E.pdf> (accessed April 5, 2014).
- Fry, Richard, and Kim Parker. 2012. *Record Shares of Young Adults Have Finished Both High School and College*. Washington, DC: Pew Research Center. <http://www.pewsocialtrends.org/2012/11/05/record-shares-of-young-adults-have-finished-both-high-school-and-college/> (accessed June 20, 2014).
- Hanson, Andrew R., Anthony P. Carnevale, and Stephen J. Rose. 2012. *Certificates: Gateway to Gainful Employment and College Degrees*. Washington, DC: Georgetown University Center on Education and the Workforce. <http://masters-certificate.com/Certificates.FullReport.061812.pdf> (accessed June 20, 2014).
- Helmer, Matt, and Amy Blair. 2011. *Initial Education and Employment Outcomes Findings for Students Enrolled in Healthcare Career Training 2003–2008: Capital IDEA and Austin Community College Partnership*. Washington, DC: Aspen Institute. <http://www.aspenswi.org/wordpress/wp-content/uploads/10-015.pdf> (accessed June 20, 2014).
- Public Agenda. 2009. *With Their Whole Lives Ahead of Them*. New York: Bill and Melinda Gates Foundation. <http://www.publicagenda.org/theirwholelivesaheadofthem> (accessed December 28, 2012).

# 12

## **Promising Practices of Community Colleges in the New Age of Workforce Development**

Jim Jacobs  
*Macomb Community College*

The impact of the Great Recession significantly changed many institutions, including community colleges. This was especially true in the area of workforce development. As the economy slowly improves and companies begin hiring in larger numbers, successful community colleges are adjusting both the substance of their programs and their processes of delivery. This is resulting in the emergence of a different workforce development practice for community colleges, with implications for the overall workforce development system in the United States. In this brief chapter, I examine changes resulting from the Great Recession and their impact on the large community colleges located in many manufacturing centers in the United States.

There are more than 1,200 community colleges in the United States, most of which are governed through a combination of state laws and local elected or appointed trustee boards. Of these, 250 are comprehensive community colleges, whose enrollments exceed 20,000 students and are typically located in urban and suburban centers. This subgroup of community colleges plays a major role with the dominant sectors of the U.S. economy and serves as the center of major community college efforts in workforce development.

This case study focuses on the practical experiences of a group of 20 major community colleges who have worked together for the past four years as the Community College Workforce Consortium. While these represent only a small fraction of the country's community colleges, many of these institutions are considered leaders by their peers, so their initiatives are likely to impact the future of community colleges

as a whole. To understand their significance, it is necessary to examine the delivery of workforce development before 2008.

## **FORMER SYSTEM**

By 2000, most major community colleges had a bifurcated organizational structure related to workforce development. There were traditional vocational or career and technical programs primarily designed to prepare traditional-age students for direct entry into career fields. These programs frequently integrated work-based experience (such as the hospital practicum for nursing students), but also often included traditional liberal arts electives and resulted in an associate's degree. They existed alongside shorter certificate programs that strictly concentrated on subject matter courses. Program enrollments fluctuated in response to local labor market demand, but by 2000 enrollment shifted away from traditional manufacturing and construction programs to business, health career, and information technology programs (U.S. Department of Education 2011).

From the early 1980s, most major community colleges began to also develop units, typically in another part of the institution, focused on providing short-term customized training for local business. Programs were usually developed in response to specific demand for training for incumbent workers, new hires, or start-ups. Many of these efforts were connected to existing state programs that provided funding for job training. These were also the units that interacted with the local workforce board to provide short-term, focused training for their clients. As a result, some community colleges constructed stand-alone "advanced technology centers," and, for a brief time, some community college leaders believed that these activities would provide significant revenue streams for the colleges (Grubb et al. 1997).

The growth of customized training programs at community colleges also influenced their interactions with the formal funding mechanisms of the national Workforce Investment System. While the relationships between the community colleges and the workforce system were too often dominated by state policies on board membership, generally the college's customized training units and local workforce boards pro-

vided a good connection to short-term training that prepared people for available jobs. In many areas, close ties were formed between the workforce board and community college, creating a more robust local workforce system (Fischer 2009).

However, private sector trends were at work even prior to the Great Recession that would recast the landscape. First, companies stepped away from on-the-job training and began to demand candidates who possessed the specific skills sets necessary for the job. They conducted rigorous assessment and evaluation of candidates before hiring. They were suspicious of the formal workforce system and sought out employment service firms, arranging to “try out” workers on a temporary basis and assessing on-the-job performance before deciding who to hire on as a full-time employee (Berger 2013).

Second, by 2000, much of the state-supported funding for training programs began drying up as fiscal challenges rose. Instead of continuing to invest in programs to maintain and build their local workforces, which benefited both business attraction and established firms, many states held back training resources to support special, one-shot projects that they thought would attract new, large plants and create a lot of new jobs.

Third, as state training funds evaporated, the local training market for community colleges began to decline. Many colleges began to convert their technology centers to serve traditional, for-credit programs, losing their capacity for short-term training and education. The emphasis shifted from training incumbent workers to serving the growing numbers of younger college students preparing for entry-level jobs.

## **IMPACT OF THE GREAT RECESSION**

The Great Recession amplified these trends. Customized training and incumbent workforce training completely dried up as companies downsized their workforces and hunkered down in survival mode. This had a dual impact. First, existing pipelines of training demand ended for the colleges. But, additionally, many companies did away with their training units, severing the ties and relationships that had been carefully constructed by the community colleges.

At the same time that corporate ties were evaporating, enrollment in some community college career preparation programs surged. Large numbers of adults, primarily those in manufacturing and construction industries who were feeling the brunt of the recession, were attracted to community college degree programs, in part due to their eligibility for student aid and other funding, looking to gain skills in fields with available jobs. Many of these adults wanted to work in “secure” sectors such as health care and information technology. However, they often lacked basic math and science proficiencies necessary for success in college in these fields. In addition, many of the career programs required two years of course work to qualify for licenses, but these individuals were often looking for immediate entry into the labor market. As a result, courses to obtain a commercial driver’s license or become a certified nursing assistant or teacher’s aide began to proliferate. Typically, these were structured as noncredit programs, and students were heavily dependent on the local workforce boards for funding.

In response to the Great Recession, the Obama administration unleashed resources for education and training programs through the Workforce Investment System. Funds from the Troubled Asset Relief Program (TARP) were channeled through the existing workforce system. Some funding was targeted to new programs in solar energy and “green” construction, while another portion provided the basis for creative state programs that brought community college training to thousands of displaced workers. For example, Michigan introduced No Worker Left Behind, which provided free tuition for up to two years for students pursuing programs in high-demand fields. Approximately 140,000 took part in the program between 2007 and 2010, resulting in significant increases in program completions and new jobs obtained (State of Michigan 2009).

During the Great Recession, community colleges formed a collective response to four major trends shaping modern labor markets. First, the labor market became “privatized,” with large companies working through employment service firms versus publicly advertising positions or utilizing the public workforce boards. So, while community college students could prepare for work, they often lacked the ability to connect their students with those hiring. As a result, community colleges began to play a more active and aggressive role in advocating for students, developing direct relationships with private employment service firms.

Macomb Community College found that these service firms were able to place students more effectively and efficiently in many occupations because they were able to focus on the needs of the industry.

Second, with the shift away from traditional manufacturing jobs, obtaining employment in sustainable wage jobs was now predicated on having credentials, including degrees that required longer-term preparation. However, many displaced workers needed jobs immediately. This meant that the traditional division between noncredit short-term job training programs and credit long-term programs needed to be addressed. Community colleges worked to close the gap between their credit and noncredit programs for an integrated approach. For example, at Macomb Community College, a 16-week noncredit course that prepares students for a certified nursing assistant job was “internally articulated,” so that students receive some college credit that is applicable to the completion of a degree in many of the college’s allied health programs, which include nursing, respiratory therapy, and physical and occupational therapy assistant. The merger of the credit and noncredit course offerings became a new organizational benchmark for colleges that were paying close attention to the workforce needs of their communities.

Third, because not enough employment opportunities existed in most labor markets, community colleges became increasingly involved in direct economic development activities. This was especially true for the colleges in communities where major segments of manufacturing were eliminated. They deepened their entrepreneurial programs to provide direct technical assistance to start-ups through business incubators, applied technology laboratories, and innovation funds. In other cases, community colleges played a role in the development of “green job” industries both through training and support for start-up operations. The colleges also began supporting community partners in developing new industry sector opportunities, as well as finding markets for those new industries (Jacobs 2012).

Fourth, as the recovery began, many large companies were faced with the challenges of restoring their talent pipelines. However, their search for highly skilled workers, including those with four-year technical degrees, was not compatible with community college programs. The HR Policy Association (2011) called for a national effort to deal with the needs of large, multistate employers in the report *Blueprint for*

*Jobs in the 21st Century*, criticizing the nation's current uncoordinated approach to workforce training and education programs that requires formation of separate, independent, and different relationships in each region and state. The association is the lead public policy organization of chief human resources officers of more than 350 companies, representing the largest employers in business in the United States and globally.

Finally, the Obama administration, more than any other presidency, began building policies to promote community college involvement in the economy. In announcing his Community College Initiative in July 2009 at Macomb Community College, the president asserted, "Community colleges are an essential part of our recovery for the present and our prosperity in the future." Community colleges were integrated into many administrative initiatives, such as efforts to increase manufacturing competitiveness or the promotion of green jobs through TARP funding, and the first federal initiative to build community college capacity in workforce development was rolled out through \$2 billion of Trade Adjustment Act dollars. From 2011 to 2014, four \$500 million grant pools were awarded to community colleges through a competitive process that requires connection with local business and industry to fill unmet skill needs in their communities (McCarthy 2014). This year, the administration has proposed a number of new federal initiatives to utilize the capacity of community colleges in areas of demand-driven training and the development of new apprentices.

## **NEW SOLUTIONS**

These changes spurred community colleges to further integrate credit and noncredit programs, often developing new forms of credentials that would satisfy business demands. Moreover, the colleges also began to look beyond the needs of individual firms to industry sectors, employing a long-term view and economic development objectives. One such initiative was the Auto Communities Consortium. Initiated by community colleges in Michigan, Indiana, Ohio, and Iowa, and joined by colleges in Illinois, Wisconsin, Kentucky, and Tennessee, this learning network was established to address challenges faced by manufac-

turing communities. The consortium has now expanded into a national effort, changing its name to the Community College Workforce Consortium (CCWC).

Initially funded by the Joyce and Lumina foundations, and now an organization supported by member dues, the consortium works together to develop activities that help create employment within and outside the auto industry. For most communities, focusing on the auto industry for future employment growth is not realistic. Instead, the imperative is to collaborate with local economic development organizations to design meaningful programs that prepare students for jobs in new industries in emerging sectors.

Two key features of the CCWC are peer learning, a structure based on sector activities versus state boundaries, active leadership by college presidents to support institutional transformation, and fostering linkages with public policy advocates to develop a genuine federal response that builds on community college efforts to help restore the vitality of manufacturing communities in the United States. The consortium is not simply a group of community college workforce trainers, but an organization created by presidents who wish to adapt their institutions to the new realities of the labor market. This means confronting internal institutional issues such as the relationship between credit and noncredit programs, determining how to implement industry-driven credentials into their programs, and committing college resources to promote community economic development.

The consortium format has enabled community colleges to engage with larger employers and their professional associations, leading to a relationship with the HR Policy Association. Together, they have formed a Workforce Development Roundtable, which includes member job postings and advice for students seeking work. In addition, the HR Policy Association members' companies provide "sector snapshots" of long-term workforce needs to CCWC members and work cooperatively toward mutually beneficial changes in federal workforce policies (HR Policy Association 2013).

## CONCLUSION

These developments suggest that community college workforce programs will be stretched in two main directions. First, internally, there will be more integration and alignment of all the workforce programs, both credit and noncredit, under a coordinated institutional structure. Both forms of learning are necessary, given the varied needs of the students and, often, the skill needs of employers. While learning activities will operate under one umbrella, learning outcomes (degrees, certificates, industry certifications, apprenticeship) could be different. The challenge will be to organize these activities into coherent pathways that meet the diverse objectives of students. For those coming to the community college in search of marketable skills, the college will not only teach the skills but also will use their local reputation to promote students in the workplace. This requires closer coordination with employers and a much more sophisticated understanding of local labor markets, specifically, the use of current job postings for a real-time view of local demand, as well as in-depth discussions with corporate human relations executives who are attempting to forecast talent management trends three to five years out. Taking a sector approach to workforce programs translates into more time, energy, and institutional resources devoted to understanding the trends in an industry and responding to them with a variety of programs.

At the same time that community colleges integrate their workforce activities to focus on local labor markets, they will also collaborate with other community colleges to address the needs of large corporations or regional industrial clusters located beyond their service areas or even their states. The CCWC is an example of what will emerge as colleges partner to deal with the workforce needs of specific industrial sectors, with practices developed through the Trade Adjustment Act grants serving as the basis for many of these new collaborations. These grants could be an impetus to spur both the creativity and the capacity of community colleges to perform at new levels that will be able to sustain the programs after the grants vanish.

The experience of community college workforce programs provides the basis for new federal policy toward talent management. For example, the largest federal postsecondary grant program for low-income

students, Pell Grants, is now being considered a part of the workforce development system as well as a means to complete a college degree (College Board 2013). In addition, federal policies to promote a sector strategy of technical innovation need to engage community colleges to provide the technical training programs to provide a workforce that can sustain and expand these innovations. Federal policies toward adult education need to take into account employment as an end goal, not just achievement of a high school General Educational Development.

Finally, it means the federal government will need to develop practical policies that deal with the development of industry certifications and nondegree credentials that are increasingly found in postsecondary learning institutions. How are they to be assessed? How are they linked to work-based learning systems such as apprenticeship? What sort of federal support will they obtain?

Paradoxically, one of the areas where community college involvement is most uncertain is within the traditional Workforce Investment System through the U.S. Department of Labor. For the most part, the current system emerged out of traditional labor market and training structures developed before community colleges became integral in the training of unemployed and incumbent workers. For many federal policymakers, the advantages of community colleges have not been fully appreciated. One important future issue will be the extent to which the community colleges are integrated within a comprehensive system, leveraged to complement the workforce system, or even replace the present system. But even with this question in limbo as the implications of the impending authorization of Workforce Innovation and Opportunity Act, there is no question that community colleges have been emerging since the Great Recession as a major player in the nation's future workforce development system.

## References

- Berger, Suzanne. 2013. *Making in America: From Innovation to Market*. Cambridge, MA: MIT Press.
- College Board. 2013. *Rethinking Pell Grants*. New York: College Board.
- Fischer, Karen. 2009. "As an Auto Industry Shrinks, a Community College Retools." *Chronicle of Higher Education* 55(35): A1.
- Grubb, W. Norton, Norena Badway, Denise Bell, Debra Bragg, and Maxine Russman. 1997. *Workforce, Economic, and Community Development: The Changing Landscape of the Entrepreneurial Community College*. Berkeley, CA; Columbus, OH; Chandler, AZ: National Center for Research in Vocational Education, National Council for Occupational Education, and League for Innovation in the Community College.
- HR Policy Association. 2011. *Blueprint for Jobs in the 21st Century: A Vision for a Competitive Human Resource Policy for the American Workforce*. Washington, DC: HR Policy Association. <http://www.hrpolicy.org/downloads/blueprint/Blueprint%20for%20Jobs%20Report.pdf> (accessed November 24, 2014).
- Jacobs, James. 2012. "The Essential Role of Community Colleges in Rebuilding the Nation's Communities and Economies." In *Universities and Colleges as Economic Drivers*, Jason E. Lane and D. Bruce Johnstone, eds. Albany, NY: SUNY Press, pp. 191–204.
- McCarthy, Mary Alice. 2014. *Beyond the Skills Gap*. Washington, DC: New America Ed Central.
- State of Michigan. 2009. *No Worker Left Behind—Outcomes for the First 18 Months*. State of Michigan. [http://www.michigan.gov/documents/nwlb/NWLB\\_Outcomes\\_Report\\_2009\\_10\\_23\\_298741\\_7.pdf](http://www.michigan.gov/documents/nwlb/NWLB_Outcomes_Report_2009_10_23_298741_7.pdf) (accessed April 9, 2015).
- U.S. Department of Education. 2011. *The Condition of Education 2011*. Washington, DC: U.S. Department of Education <http://nces.ed.gov/pubs2011/2011033.pdf> (accessed November 24, 2014).

# 13

## Wired65

### **Driving a Cross-State Regional Manufacturing Strategy**

Maria Flynn  
*Jobs for the Future*

The emerging consensus vision of a twenty-first century workforce system elevates a number of strategic principles and practical design elements that have emerged and been tested in the past two decades. These involve strategies rooted in addressing the particular needs of specific industry sectors or occupational clusters, aligning workforce and regional economic development priorities more explicitly, organizing employers and providers by labor market regions rather than political jurisdictions, balancing the needs of high-growth and high-wage employers with the societal interest in helping low-skill adults advance in earnings and careers, and increasing the supply of workers with formal credentials recognized and valued by employers.

While not prevalent in all parts of the nation, these strategies have evolved over the past 20 years as a result of philanthropic and government investment. The new Workforce Innovation and Opportunity Act (WIOA), as signed into law by President Obama in 2014, specifically requires the use of such strategies, including career pathways, sector strategies, and strategic use of labor market information.

In the years leading up to the enactment of WIOA, a growing number of communities have developed regional partnerships that share these forward-looking characteristics. These efforts have provided entrepreneurial and creative local Workforce Investment Boards (WIBs) with an opportunity to forge new relationships with education and service providers, employer associations, and other stakeholders committed to a public-private human capital development strategy for their regional economy. It is this type of strong intermediary and convener role for WIBs that is envisioned in the new federal workforce legislation.

## WIRED65

One particularly innovative and mature regional partnership is Wired65, a cross-state effort involving 26 counties along the I-65 corridor spanning Kentucky and Indiana.

Seven years ago, realizing that their labor markets were becoming increasingly interconnected and looking for ways to increase operational and strategic efficiency, workforce development, economic development, and education leaders in this bistate region came together to promote economic competitiveness through better connections between economic and workforce development across the regional labor market. The initial catalyst was the successful application for a \$5 million U.S. Department of Labor (USDOL) Workforce Innovation in Regional Economic Development (WIRED) grant. Wired65 was one of 39 regions nationwide to receive one of these grants between 2006 and 2007, which rewarded strategies to transform economies through an emphasis on sectors and talent development. Wired65 invested in initiatives to connect students to careers, train individuals for higher-skilled jobs, and align regional institutions and resources toward the common goal of developing, retaining, and attracting individuals who can drive a twenty-first century economy (Wired65).

Wired65 is composed of four local WIBs: KentuckianaWorks, Lincoln Trail, and Cumberlands in Kentucky; and Workforce Development Association/Region 10 in Indiana. All too aware that their region's historically low skill and education levels have hampered economic growth since the decline of manufacturing began several decades ago, these publicly funded WIBs committed to work outside their traditional boxes to reorient the region's workforce development system, which was a traditional supply-side approach to a demand-driven, sector-based approach.

The regional partnership has grown and matured since the federal grant ended after 2010. Its evolution has been bolstered in recent years by participation in the National Fund for Workforce Solutions (National Fund), an initiative of national and local funders that partners with businesses and philanthropy to develop employer-driven workforce strategies to help low-wage workers and job seekers obtain career opportunities, while creating talent supply chains that close skills gaps and

strengthen local economies. Wired65 is included as one of the National Fund's regional sites, through a Social Innovation Fund (SIF) grant to Jobs for the Future, the National Fund's implementation partner. The SIF is a program of the Corporation for National and Community Service, which combines public and private resources to grow the impact of innovative, community-based solutions that have compelling evidence of improving the lives of people in low-income communities throughout the United States.

This engagement with a national network of similar partnerships, coupled with an infusion of new federal and philanthropic investment, has helped Wired65 establish a public/private regional funding collaborative, invest in new employer-led workforce partnerships in key sectors, attract new private resources to augment the local workforce boards' public dollars, and drive critical system change efforts to promote expansion and sustainability. Since 2011, a total of \$1,045,000 in leveraged and aligned resources has been committed to support the Wired65 effort, matching \$466,000 awarded from the National Fund.<sup>1</sup> The combined \$1.5 million that has been invested to date has been used to fund training programs and workforce partnerships in key sectors.

## **PROMOTING COMMON CREDENTIALS TO GET ON A MANUFACTURING CAREER LADDER**

Since joining the National Fund in 2011, Wired65 has invested in employer-driven industry partnerships in sectors identified through labor market analysis: food and beverage, moving and storage, and automotive dealerships (National Fund 2010). Across the region's four local workforce investment areas, the greatest traction has been with manufacturing employers around better signaling of entry-level skills and credentials. This traction stems from growth led by major employers such as Ford and GE as well as their ecosystem of suppliers. In general, regional growth in manufacturing was strong compared to state-wide and national data.

The partners decided to push for regional adoption of the entry-level certified production technician (CPT) certification offered by the

Manufacturing Skills Standards Council (MSSC). When they learned the certificate was not offered in Kentucky, they looked into programs in other states, including the Advancing Manufacturing initiative in Lafayette, Indiana, and laid the groundwork for regional implementation. Cumberlands WIB was the first regional entity to offer the MSSC course, followed by the KentuckianaWorks region at the newly formed Kentucky Manufacturing Career Center. With National Fund for Workforce Solutions funding, classes were then introduced at Work One, Southern Indiana's WIB, and in the Lincoln Trail region of south central Kentucky.

The strategy was to foster buy-in through incremental engagement steps. The first MSSC CPT classes were offered to incumbent employees of manufacturing companies in industry partnerships. This enabled employers to evaluate the training and certifications and provide clear feedback to the training provider. Their experience has led many employers to express a preference for the credential among new hires.

While each local WIB has its own manufacturing industry partnerships, the common credentials support regional commuting patterns. MSSC-credentialed candidates from southern Indiana or Elizabethtown, Kentucky, are invited to attend job fairs in Louisville, and credentialed Louisville job seekers have applied at companies in Lincoln Trail knowing that their MSSC credential will be recognized.

## **KENTUCKY MANUFACTURING CAREER CENTER**

In Louisville, KentuckianaWorks has built on the stackable credentials approach to launch a sector-based career center for manufacturing. As defined by USDOL, stackable credentials are a sequence of credentials that can be accumulated over time to build up individuals' qualifications and help them move along a career pathway or up a career ladder to different and potentially higher-paying jobs.

After a year of planning driven by a 30-company Employer Advisory Group, the Kentucky Manufacturing Career Center (KMCC) opened in April 2013. Operated by Jefferson Community and Technical College in Louisville, the center strives to

- supply a ready workforce for growing manufacturing companies,
- provide the skills needed for job seekers and incumbent workers to move into and advance within this growing sector,
- serve as a resource for manufacturing companies to find trained employees or train existing workers,
- encourage a career pathway from manufacturing to engineering based on the National Association of Manufacturers' stackable credentials system (Manufacturing Institute 2014b), and
- encourage more people to consider and pursue a career in manufacturing.

Between May 2013 and July 2014, the center has served more than 674 job seekers and placed over 175 individuals into employment at an average starting wage of \$12.33 an hour. The center has increased job placement success by having its career specialists work more directly and regularly with manufacturing employers. Initial data validate this employer-focused approach: KMCC's rate of placement per career specialist is higher than other One-Stop Career Centers in the region.

## **EMPLOYER SYSTEM CHANGE**

To date, more than 20 companies throughout the Wired65 region have recognized the National Career Readiness Credential and MSSC CPT credentials in hiring decisions. Several members of the KMCC Employer Advisory Group already list the credentials in job postings and on their Web sites; 15 companies have hired MSSC-certified job seekers. Most recently, GE Appliance Park, one of the region's largest manufacturing employers, endorsed both the National Career Readiness Credential and MSSC CPT credentials and has begun giving preference to KMCC applicants in production position hiring.

KMCC Employer Advisory Group firms have formalized the organization by establishing a formal membership agreement that outlines requirements of membership. These requirements include agreeing to pay a \$75 yearly fee; formally recognize the KMCC training programs

on Web sites or job postings (“recognition” means that candidates will be guaranteed an interview if other requirements are met); and provide earnings and retention data on employees hired from the KMCC. Moving forward, they will examine the possibility of requiring employers to pay a fee to the center for placements after 90 days’ retention that will fund training scholarships.

## **EDUCATION SYSTEM CHANGE**

Wired65 worked closely with Jefferson Community and Technical College (JCTC) and Elizabethtown Community & Technical College to make the case for certifying an MSSC instructor and offering the CPT course. The Wired65 collaborative also lobbied the community colleges to provide nine credit hours for the four-week MSSC CPT course, thereby enabling the certification to seamlessly articulate into a comprehensive manufacturing program of study. In November 2013, Jefferson Community and Technical College began offering a new five-credit-hour multiskilled technician course at KMCC.

Recognizing the need to support entry-level workers in their ongoing pursuit of training and education, JCTC also employs a transition counselor to work with all KMCC students. With the Workforce Investment Boards’ support for these kinds of changes, JCTC became one of fewer than 100 colleges in the United States named to the National Association of Manufacturers’ “M-List” for teaching manufacturing students to industry standards (Manufacturing Institute 2014a).

## **POLICY CHANGE AND ADVOCACY**

Commitment to a consistent regional sector-based approach by four WIBs has enabled job seekers and companies across 26 counties to rally around a common set of entry-level credentials. The KMCC is providing a new model of combining federally funded employment services with additional, sector-focused training tied more closely to employer needs. This is not the first sector-based One-Stop Career Center in

the nation—it is predated by others such as the Workforce1 Industrial and Transportation Center in Queens, New York. However, its strong employer connections and focus on systems change in addition to traditional job training outcomes make it unique. The fundamental change has been having the employers take the lead role in driving the training agenda. Through this approach, employers started to realize that they cannot be passive and simply express concerns about the skill level of job candidates. Rather, they need to drive the conversation. As a result, the KMCC has emerged as an attractive model at a time when the workforce field and state and national policymakers are striving to identify and scale more effective job-driven training approaches.

KMCC and other Wired65 initiatives have emerged as promising workforce development practices. U.S. Secretary of Labor Thomas Perez visited the center in late 2013; he toured the facility, watched students in classes, and participated in a discussion with both students and representatives of local manufacturing companies and their training partners. Also in late 2013, KMCC was selected as the location for the Manufacturing Institute's National Manufacturing Day celebration, in recognition of its adoption of industry-recognized credentials and its promotion of manufacturing careers.

At the state level, at the request of the Kentucky Economic Development Cabinet, Wired65 has supported the recruitment of companies looking to relocate in Kentucky. Companies have visited the KMCC and attended Employer Advisory Group meetings, gaining a strong sense of the region's ability to produce a trained workforce response to employer needs.

The establishment and growth of KMCC and the expansion of manufacturing training in Lincoln Trail, Cumberland, and Work One/Southern Indiana come at a critical time for the region's manufacturing sector. The region has experienced recent growth in several manufacturing specialties, significantly outpacing the growth in other industries since the trough of the recession in 2009. Between June 2009 and June 2013, manufacturing employers added 12,890 jobs in the region—a growth rate of 21 percent, which is more than double the 10 percent rate for other jobs. Today, manufacturing accounts for 13 percent of the region's employment.

## IMPLICATIONS FOR THE FIELD

Wired65's strategy for addressing both the supply and demand sides of the talent development equation provides three key lessons for the broader workforce field.

- 1) **Local WIBs can drive public-private systems change through their role as workforce intermediaries.** By joining together to tackle common regional labor market challenges, the four WIBs in Wired65 have successfully adopted common priorities and tactics, including focus sectors, common industry-recognized credentials, and employer engagement. Wired65 is an exemplar of a WIB taking on the role of workforce intermediary, highlighting the potential for WIBs to serve as effective regional conveners and brokers.
- 2) **Expand effective practices and discontinue those that do not yield positive results.** Wired65 has made a series of strategic data-driven decisions that have demonstrated their agility and capacity to meet the needs of both employers and job seekers. The region is a leading user of real-time labor market information, which enables leaders to make informed decisions about investments and program design. They also track performance outcomes to be sure that an investment is working. For example, when a transportation and logistics workforce partnership was performing unsatisfactorily, due to difficulty attracting participants, Wired65 staff stopped investing in the effort but also provided specific feedback and recommendations to the industry association partner on how program design changes could improve recruitment. Meanwhile, given KMCC's success to date, Wired65 is developing a request for a proposal for a Health Career One-Stop driven by the industry partnership, the Health Care Careers Collaborative of Greater Louisville.
- 3) **Strong alignment of public and private dollars enables a region to build and deploy demand-driven solutions.** The constraints of federal funding can at times be perceived as a deterrent to innovation, if only because WIBs are understandably cautious in their stewardship of federal funding. At times,

there are unclear interpretations of federal policies that result in fear of audit findings. With the additional flexibility of private dollars leveraged with public funding, the WIBs in the Wired65 Regional Workforce Partners felt more confident moving quickly to respond to employer demands, even when the response took the partnership outside its historical comfort zone of focusing more on supply side issues. In the past, just determining whether an employer-driven project was allowed under federal rules would significantly delay implementation. Surprisingly, as the partners have implemented new approaches with more flexible funding, they have discovered that WIA was perhaps less of an obstacle than long-standing local policies that could be changed by the board. In addition, the very process of going to the private philanthropic sector for investment has helped the WIBs reenvision themselves and their ambition. The region has also benefited from technical assistance from USDOL during the WIRED initiative and from National Fund coaches as part of the Social Innovation Fund investment. These activities have brought significant new energy, ideas, capacity, and partners to the regional workforce landscape.

### Note

1. The Wired65 funders are JPMorgan Chase Foundation, Gheens Foundation, Community Foundation of Louisville, James Graham Brown Foundation, PNC Foundation, Network Center for Community Change, Louisville Redevelopment Authority, and Community Foundation of South Central Kentucky.

### References

- Corporation for National and Community Service (CNCS). "Social Innovation Fund/Funded Organizations." Washington, DC: CNCS. <http://www.nationalservice.gov/programs/social-innovation-fund/previous-competitions/2010/jobs-future> (accessed May 2, 2014).
- Manufacturing Institute. 2014a. "The M-List." Washington, DC: National Association of Manufacturers. <http://www.themanufacturinginstitute.org/Skills-Certification/M-List/M-List.aspx> (accessed May 2, 2014).

———. 2014b. “NAM-Endorsed Certifications.” Washington, DC: National Association of Manufacturers. <http://www.themanufacturinginstitute.org/Skills-Certification/Certifications/NAM-Endorsed-Certifications.aspx> (accessed July 8, 2014).

National Fund for Workforce Solutions. 2010. *Workforce Partnership Guidance Tool*. Boston: National Fund. [http://nfwsolutions.org/sites/nfwsolutions.org/files/publications/NFWS\\_workforce\\_guidance\\_tool\\_111110.pdf](http://nfwsolutions.org/sites/nfwsolutions.org/files/publications/NFWS_workforce_guidance_tool_111110.pdf) (accessed May 2, 2014).

Wired65. “Overview.” Louisville, KY: Wired65. <http://www.wired65.org> (accessed April 30, 2014).

# 14

## **Workforce Innovation in Regional Economic Development (WIRED)**

Nancy Hewat  
*Synthesis Evaluation & Research*

Kevin Hollenbeck  
*W.E. Upjohn Institute for Employment Research*

This case study highlights key lessons learned through an evaluation of the Workforce Innovation in Regional Economic Development WIRED Initiative (Generations II and III) that was conducted by the authors.<sup>1</sup> WIRED grantees were responsible for conceiving, designing, allocating, implementing, and managing their initiatives within some basic parameters established by the U.S. Department of Labor's Employment and Training Administration (ETA). WIRED regions were expected to identify regional boundaries and establish strategic priorities. The success of their efforts hinged on the ability of WIRED partners (a cross-section of public, private, and nonprofit interests) to collaborate, leverage partner resources, and encourage and support innovation. They were responsible for results in the sense that their efforts were expected to affect their communities and the region as a whole. The flexibility to define and shape a regional strategy in response to regional needs resulted in a diverse group of initiatives that served as the basis for the national WIRED evaluation.

The evaluation was responsive to ETA's interest that the evaluation focus on WIRED as a national strategy. It was primarily an implementation study to document the activities that regions were undertaking with WIRED funding and their effectiveness. However, the evaluation did include a net impact study to attempt to estimate the impact of the WIRED grants on regions' economies.

This case study highlights and discusses the implications of the lessons learned from WIRED and its evaluation, as appropriate, for current regional innovation cluster initiatives (including the multiagency-funded Initial Clusters; the Small Business Administration's Pilot Contract-Based Clusters; and the multiagency-funded Jobs Accelerator Collaboration Clusters, Advanced Manufacturing Jobs Accelerator Collaboration Clusters, and Rural Jobs Accelerator Collaboration Clusters) and future related initiatives that may be undertaken with the support of federal or state funding. This chapter provides an overview of the WIRED Initiative, a description of the evaluation of WIRED, a discussion of the findings from that evaluation, and a presentation of the implications that we derive from WIRED. The findings and implications will be useful for policymakers, agency leaders, and regional administrators to improve the effectiveness of future regional innovation clusters.

## **OVERVIEW OF WIRED**

The WIRED Initiative was conceived and launched in late 2005 as the United States was slowly recovering from the 2000–2002 recession. The major economic concern at the time was international competitiveness. The intellectual precursor of WIRED is the work of Porter (1998, 2003), who recognized the power of clusters to advance regional economic growth.<sup>2</sup>

In its Solicitation for Grant Applications (SGA), ETA justified its investment as a way for regions “to implement ground-breaking strategies that will result in their workforce investment system becoming a key component of their region’s economic development strategy. The ultimate goal of the WIRED Initiative is to expand employment and advancement opportunities for American workers and catalyze the creation of high-skill and high-wage opportunities.” The notion of WIRED as a catalyst was used often by ETA in its documentation of the initiative, suggesting that the agency saw the role of federal support as being catalytic: necessary to get the reaction—that is, regional collaboration and the related leveraging of partner resources—under way, but not necessary for sustainability.

Ultimately, ETA funded 39 regions as a result of two SGAs. The first SGA was released in late 2005 and offered regions grants with terms of up to 36 months and awards of approximately \$5 million annually (i.e., total awards of approximately \$15 million). In February 2006, ETA selected 13 regions to be awarded grants. These regions became known as Generation I (Gen I). Interestingly, the first SGA did not require a sectoral or cluster approach—it indicated that ETA was looking for an innovative/transformational way to integrate workforce and economic development at the regional level to support the creation and expansion of high-skill, high-wage jobs. However, most of the regions proposed and implemented one. Presumably, the regions understood explicitly or implicitly the benefits of the agglomeration economies that arise from focusing on a sector or cluster.

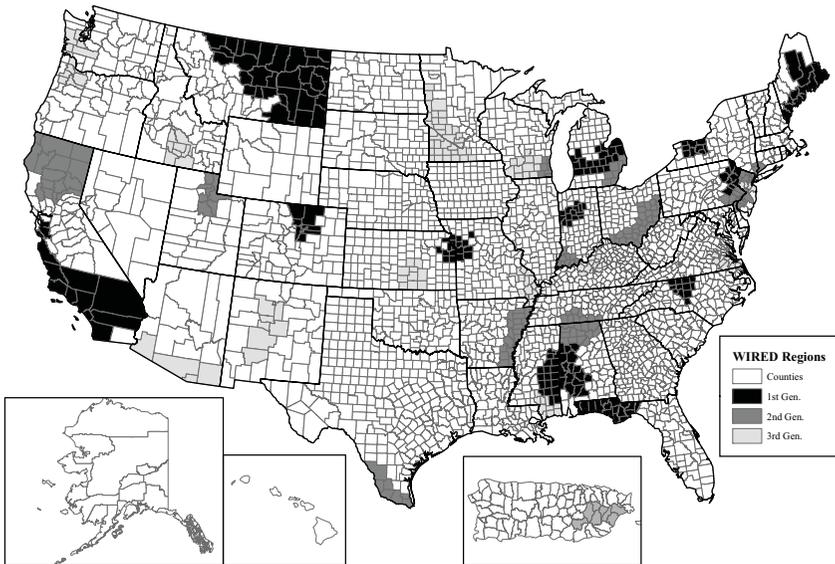
An additional 13 regions that responded to the initial SGA were awarded planning grants of approximately \$100,000 in 2006. In January 2007, these 13 regions were awarded 36-month grants that totaled approximately \$5 million, that is, one-third the size of the Gen I awards. These 13 regions became known as Gen II.

In early 2007, ETA released a second SGA for WIRED. This solicitation was quite similar to the earlier one, except that in alignment with Gen II, the awards totaled approximately \$5 million for the entire 36-month term of the grants. Other changes were made as well. For instance, the second SGA was explicit in describing the focus of WIRED: “Applicant(s) must describe the high-growth industries and economic sectors that will be the focus of the strategies.”

In addition, grantees were required to include a “senior representative” of the workforce investment system of the region (i.e., chair or executive director of a local workforce investment board) as the lead or colead of the partnership.<sup>3</sup> In fall 2007, the final 13 regions of the WIRED Initiative were named, and dubbed Gen III.

With a total of \$325 million invested in 39 regions, WIRED attracted considerable attention nationally as a large-scale effort by a federal agency to promote and support regional cluster development and growth. In Figure 14.1, the darkest shaded regions are Gen I, the next darkest are Gen II, and the lightest shaded regions are Gen III.

**Figure 14.1 WIRED Regions in the United States and Puerto Rico**



## SELECTED FEATURES OF THE WIRED GRANT PROGRAM

### Funding

The funding for WIRED came from fees paid by employers to obtain H-1B visas for their employees. These fees were intended to support the development of skills in U.S. citizens so that they could compete with the foreign workers for whom the visas were being obtained. Congress established allowable expenditures for these funds, generally permitting their use for job training and related curriculum development. ETA “captured” these funds and allocated them to the WIRED Initiative. The official grant applicants were states, and as fiscal agent, they were ultimately held accountable for unallowable costs. Due in part to the problems that Gen I grantees encountered about allowable uses of H-1B funds, the second SGA was far more explicit about how H-1B funds could be used.<sup>4</sup>

To achieve its goal of enhancing regional economic development, the WIRED solicitation expected, but did not require, applicants to align resources and leverage funds from federal, state, and regional/local partners; the private sector; investor community; and philanthropies.

The second SGA was quite explicit about this, offering applicants extra points for providing information about local matching resources.

### **Activities**

Across the 39 regions, the WIRED Initiative supported a wide gamut of activities. Most regions offered some sort of customized training to incumbent workers. The training was often located at community colleges and conducted by their staff members. In many cases, the training activities involved curriculum development as well as the provision of the training. Many of the regions also funded small business technical assistance, entrepreneurship programs, and occasional seminars on special topics.

WIRED represented a change in how ETA approached grant making by asking grantees to define the geographic boundaries of their economic regions. They were not constrained by predetermined jurisdictional boundaries such as workforce investment areas or community college service areas. In fact, seven of the regions crossed state lines.

ETA required each region to complete a comprehensive implementation plan that had to be approved before any funds were released. This turned out to be problematic in many instances. For most regions, the ETA review took several months. There was some benefit to having grantees think through the implementation process, but the delays caused by multiple layers of review and a back and forth revision process compromised the momentum that had been established between public and private partners during the proposal and plan development process. The review process furthermore reinforced opinions among some employers of the inefficiency of the federal government.

Another ETA requirement was the development of an asset map for the region (Kempner and Levine 2008). All of the WIRED grantees met this requirement, but very few grantees said that the map was useful or had any lasting strategic or operational value. In general, the grantees felt that they were well aware of the regional assets and felt that it was inefficient to have to use resources to formalize a list of them.

States were the fiscal agent for the grants, but at the regional level the grants were administered by an intermediary organization: a community college, workforce investment board, regional chamber, or an arm of a university. The region had the authority to decide how they would allocate grant funds as long as federal rules and regulations were followed.

Grantees that predetermined how WIRED funds would be allocated had less flexibility in how to respond to changing conditions and needs over the three-year grant period. The lack of flexibility was particularly problematic in regions that were hardest hit as the economy began to spiral downward in early 2008 and continued to follow that trajectory over the course of the WIRED grant period.

### **Performance Measures**

A variety of performance measures were referenced in the SGAs.

- Common performance measures were to be used to report outcomes for individuals who received training. In all three grant generations, regions were required to report this data.
- Process-oriented measures associated with activities mentioned in regional implementation plans (e.g., curricula developed, articulation agreements established). The specific mix of measures was unique to each WIRED grantee.
- System-based outcome measures focused on the longer-term effects that WIRED efforts would have on participating regions, including the elimination of barriers to innovation, increased interdisciplinary collaboration, the elimination of redundant programs, and increased efficiency. To our knowledge, none of these system-based measures were ever defined, nor were data on them collected. Whereas the fact that these metrics were not reported (and probably not produced), having them listed in the SGA may have served the purpose of getting regions to consider the longer-term outcomes of their activities.

According to the SGAs, these measures were to be monitored throughout the three-year implementation period.

## **Technical Assistance**

ETA contracted with national vendors, including Mathematica Policy Research, to provide technical assistance to regions on a voluntary basis. Furthermore, ETA organized several annual national convenings for grantees from all three generations, which appeared to us as quite useful in terms of sharing best practices, discussing challenges, and informal networking. In addition to the national technical assistance and convenings, many of the regions set up informal affinity communities or hosted regional convenings.

## **EVALUATION DESIGN**

ETA funded two evaluation contracts. One evaluator conducted an assessment of the Gen I regions (Berkeley Policy Associates), and the second evaluator (our team) examined the Gen II and III regions. Both evaluations were primarily implementation studies using mixed methods: documents were reviewed, all sites were visited at least twice, partner surveys were fielded, and social networking data were collected and analyzed.

Both evaluations also attempted to estimate the net impact of the WIRED grant on the regions' economies, although these facets were not central to the evaluations. The Gen I evaluation examined postgrant regional economic activity relative to the states in which the grants were located. Our evaluation used a matched region approach in which the regional economic activity in each WIRED region was compared to the overall economic activity in a region that was matched to it based on characteristics such as size, population, median income, education, and industrial mix.

In general, the evaluations relied on grantee self-reported data on the Common Performance Measures, and on other customized data such as training enrollments and completions, curricula developed, and technical assistance provided. There was no requirement for regions to employ their own evaluator, and that rarely occurred.

A key topic for ETA was the sustainability of the regional collaboratives. In theory, the WIRED funding was intended to be a catalyst that would result in an ongoing collaborative effort. We explored this topic during each of the site visits, and since the evaluation period of performance exceeded the implementation period of the grants, we were able to interview (by phone) a few partners in each of the regions after their grants had expired, and we visited a half dozen of the sites that seemed to have viable sustainability plans.

## **DISCUSSION**

### **Funding**

The overall funding level for the Initiative, approximately \$325 million for grants plus additional funds for a national technical assistance effort, attracted a lot of national attention. The notoriety helped to build momentum, but it was not necessarily sufficient to replace the momentum that had been lost through the slow review and approval of implementation plans prior to releasing funds.

### **Leveraging**

Because of its emphasis on providing catalytic support, ETA had each regional collaborative produce a resource mapping report that documented potential sources of resources in the area. The need for leveraging was more acute for Gen II/III. The SGA expectations for these grants were the same as those for Gen I, despite the fact that the WIRED grants had been cut by 66 percent.

In addition to asking grantees to furnish information about leveraged resources (direct and in-kind) in their original grant proposals, ETA used its regional offices to gather ongoing information about leveraged funds. The quality of this evidence was questionable, however. Regional administrators found it difficult to attribute recent federal and state grant awards to the fact that the region had received a WIRED grant and to determine how aligned other grant projects were with the region's WIRED goals.

## **Limitations of Single Funding Source**

ETA was fortunate to have funds available through H-1B to implement the WIRED Initiative. However, as noted above, Gen I and Gen II regions' activities were constrained because of limitations on the uses of H-1B funding. Actually, the problems arose because ETA did not announce the limitations until after it had approved implementation plans. Our presumption is that the individuals in ETA who were responsible for the initial SGA and grantee selection did not learn about the constraints on the H-1B funds until late 2006 or early 2007. In many cases, the grantees were committed to the activities that were identified in their implementation plans, so they needed to search for additional funds to support activities that were not allowable under H-1B. They were quite often successful at finding the funding alternatives.

## **Grant Program Design and Implementation**

Among the first activities undertaken in each region was the formation of a governing board that included public and private sector partners. Their primary role tended to be in the early phase of the initiatives: overseeing allocations and expenditure of grant funds.

In theory and in practice, allowing the grantees to define the boundaries of their regions and to identify industry clusters that were important to their regional economies increased the sense of ownership among regional partners and allowed them to target their efforts based on their knowledge of regional needs. Not only could the regions identify activities that met local needs, but regions could also establish meaningful economic areas and labor sheds. However, in regions that had more than one community college and/or local Workforce Investment Board (which was the vast majority of the regions), competitiveness among these institutions and agencies persisted. In our view, the most successful regions were able to overcome these divisive influences through effective leadership and timely and accurate communication.

## **Employer and Partner Engagement**

Perhaps the most difficult challenge for WIRED regions to address was the engagement of private sector employers. The opportunity

costs for employers to become involved were substantial, and so they rightfully wanted to see substantial value added for their organizations before they invested time, effort, and resources. As might be expected, individuals from smaller firms were particularly time- and resource-challenged. Some WIRED regions targeted activities on technical assistance or training for small businesses, and these were generally well attended and considered effective. Staff from larger businesses were somewhat more inclined to participate, although oftentimes these individuals were active in the regional activities from an altruistic or civic duty obligation, rather than as recipients of value added, such as having incumbent workers participate in customized training or having management receive technical assistance.

### **Activities**

In almost all the regions, WIRED funds were used to purchase training equipment for educational institutions. The H-1B funding carried many constraints on the purchase of equipment, but basically, as long as the equipment was proposed to be used for training purposes and not for inventory acquisition or general business operations, it was okay. The potential for problems arose when grant partners used equipment acquisition procedures of their home institution that were inconsistent with H-1B requirements. Limited monitoring, poor communications, and delays in processing reimbursement invoices exacerbated this problem. This was an issue among regional partners and between the regions and ETA.

### **Outcomes**

As noted, even though the first SGA enumerated specific outcomes for regions, data were reported sporadically, and to our knowledge, there was no effort to confirm their validity. Toward the end of the grant period, ETA required regions to enter training data into its automated data system, called Workforce Investment Act Single Record Data (WIASRD). Despite sporadic compliance with this requirement, the WIASRD database contained several thousand observations of training. Furthermore, in customized outcome reporting, regions noted that literally hundreds of curricula were developed.

Less quantitative, but perhaps more important, site visitors noted that an important outcome that had occurred in some regions was the adoption of “regionalism,” defined as a general attitude that economic development that occurred anywhere in the region was to be applauded whether or not it directly benefited a particular locale in the region.

Also noted during site visits was the fact that partners used informal networks that were established as part of the regional collaboration. While the use of these networks oftentimes was unrelated to WIRED, they were useful for the productivity of the firms that were involved in networking activities. Through partnership meetings or through general communication means such as newsletters, the participants in the collaboration got to know each other and each other’s workforce development needs and interests. These individuals became resources that were relied upon for general business purposes. That is, when participants were interviewed, they often noted that a major advantage of participating was developing a network of other individuals involved in the cluster.

## **Sustainability**

The theory behind the WIRED Initiative was that the funding provided by ETA would be a catalyst for regions to develop effective collaborations that would become self-sustainable. Using sustainability as a criterion, the WIRED Initiative had very little success. Most of the regional collaborations disbanded.

There are many possible reasons for the lack of sustainability/catalytic momentum. The limited timeline of the grants (formally three years that usually stretched to four years with no-cost extensions) made it difficult to achieve sustainable momentum, especially given the delays caused by the implementation plan review and approval process. The few WIRED regions that were able to continue their regional efforts had already established a strong foundation for regional action before the WIRED grant was awarded. Another problem was that many of the grantees, especially those led by education and workforce development agencies, interpreted sustainability as the continuation of funding for specific projects or programs that were developed during the grant period.

Perhaps the most important reason that sustainability failed was the onset of the Great Recession in 2007–2009. Firms that survived the recession cut their training budgets severely, trimmed their employee rolls, cut costs, and did whatever they could to survive. As a result, incumbent training demand fell precipitously. Emerging worker training also was hard to justify since very little hiring was being done in the economy.

## **IMPLICATIONS FOR FEDERAL AND STATE AGENCIES**

Providing seed funding for a region may be a useful catalyst for bringing together economic and workforce development entities. However, the funding should have reasonable expectations about achievable outcomes that can be accurately measured. Indicators used to measure the success of a grant program need to be aligned with the goals of the regional initiatives that receive funding.

Having a single source of funding, and in particular, having a source of funding that is constrained in many ways, makes it difficult to implement viable initiatives at the local level. Smaller grants funded by several different agencies would increase the sense of ownership and engagement in activities at the federal, state, and regional levels. Many of the regional partners were attracted to WIRED because of the potential it offered for short- and longer-term skill development benefits. However, the limitations on the use of the H-1B funds made it more difficult for grantees to address all the elements of their regional strategies. Furthermore, engaging federal partners other than ETA proved to be difficult, due at least in part to the fact that ETA's H-1B revenue stream was the only source of support.

Grant programs that provide multiyear funding and that are intended to have long-term impact need to have very general goals that are achievable under changing economic and political circumstances. WIRED started out with very clear expectations that grants were intended to catalyze the creation of high-skill, high-wage jobs. Local regions adopted implementation plans consistent with that goal. Several years into the effort, ETA altered the goal and requested that regions assist low-wage workers. Then the Great Recession hit and ETA com-

municated a goal of reducing layoffs. The regions felt whipsawed by the changing priorities.

Concomitant with the notion that the federal agency needs to have very general, flexible goals is the idea that local agencies also need to maintain flexibility. The ability of regions to respond to changing economic conditions was compromised when they preallocated all or most of the WIRED grant funds at the proposal stage, which was done because ETA announced that H-1B funds needed to be competitively bid unless partners and their respective projects were listed in the winning proposal.

Large federal grants gain the attention of stakeholders but also increase political pressure on the funding agency and grantees to perform. WIRED funds attracted national attention because of their large grant awards and ETA's national communications campaign promoting WIRED. This attention attracted the notice of policymakers, who were aware that the funds were allocated rather narrowly to a relative few rather than distributed broadly to workforce agencies across the nation. This development added pressure on ETA, and the grantees, to achieve measureable (job placement) results. The pressure began to grow midway through the grant period as the Great Recession began to deepen.

The high-profile nature of WIRED led to a lesson in grant management for ETA. Initially, ETA assigned fairly high-level staff to serve as intermediaries between the regions and the federal government, which helped to open lines of communication, making the federal agency more accessible and responsive to regional needs. ETA soon learned how important it was to use staff who had recent, field-based workforce system experience. The initial strategy of assigning high-level agency leaders as intermediaries proved to be problematic because the leaders were not well versed on the detailed implementation questions and issues that were raised by the regions.

It is not clear whether there was any value to having (the governor of) the state be the official applicant and fiscal agent for the regional grants. When regions involved multiple states, it caused conflicts between the state that was awarded the grant and other states that were involved. Furthermore, states were being held accountable for decision making at the substate regional level.

Giving local and regional stakeholders the flexibility to define their economic regions, set grant goals, and allocate grant funds maximizes

the ability of grantees to be responsive to regional needs. Both the federal and regional entities need to be aware, however, of how limited the infusion of funding is compared to the size of the regional economy. The first SGA and the evaluation request for proposals incorporated a set of assumptions about what WIRED could achieve; these assumptions—that there would be measureable results on a wide range of business-expansion-related indicators—were not realistic. Not only were the expected outcomes unrealistic given the size of the grants, in many cases they were not measurable. And even when data were available, it was not possible to attribute those outcomes to the efforts undertaken by WIRED partners.

ETA initiated and administered WIRED with a belief that its support would be catalytic. Assessing the success of the catalytic power of federal support may be accomplished by examining the sustainability of the regional collaborations. Evidence of short-term sustainability may include the continuation of funding for a specific training program or the continued operation of a regional planning board that was formed as a grant-sponsored governance group. A longer time period is needed to assess the broader catalytic effects of a regional initiative. By extending the timeline for the evaluation beyond the grant period, it will be possible to assess the longer-term catalytic effects of the grant investment on the collaborative relationships, resource leveraging, and other follow-up activities.

Finally, public agencies need to consider whether innovation is a realistic goal for a taxpayer-funded (or otherwise publicly funded) initiative. Administrative issues and accountability are necessary in such situations, and these may constrain the “thinking outside the box” that is necessary for innovation to occur.

## Notes

1. The authors have a unique perspective, having undertaken the evaluation of WIRED (Gen II and III) (see Hewat and Hollenbeck [2009, 2010]) and recently having become involved in an evaluation of the Jobs and Innovation Accelerator Challenge (JIAC and AM/JIAC) grants. The second round of JIAC grants were targeted on advanced manufacturing; hence the acronym AM/JIAC).
2. The work from Mills, Reynolds, and Reamer (2008) is an important contribution to the literature on regional innovation clusters.

3. In many private conversations with staff from ETA and with persons in leadership roles in the regions, we were told that ETA had received criticism about the lack of involvement of the local workforce investment system in Gen I and Gen II, and so it included this requirement in the Gen III SGA.
4. In developing their formal implementation plans, some of the Gen I regions had included summer science camps, many targeted for young girls, and some regions had included curriculum development in science, technology, engineering, and mathematics (STEM) areas for K–12 and postsecondary institutions. After these plans had been approved, ETA announced that H-1B funds could not be spent on youth under 16. Other problems that were encountered included a prohibition on the use of H-1B funds for marketing or for foreign travel.

## References

- Hewat, Nancy, and Kevin M. Hollenbeck. 2009. *Nurturing America's Growth in the Global Marketplace through Talent Development: An Interim Report on the Evaluation of Generations II and III of WIRED*. Report submitted to the U.S. Department of Labor, Employment and Training Administration. Washington, DC: U.S. Department of Labor, Employment and Training Administration.
- . 2010. "Evaluation of Regional Collaborations for Economic Development." Paper presented at the 32nd Annual Fall Research Conference of the Association for Public Policy Analysis and Management (APPAM), held in Boston, November 4–6.
- Kempner, Randall, and Bruce Levine. 2008. *Asset Mapping Roadmap: A Guide to Assessing Regional Development Resources*. Report submitted to the U.S. Department of Labor Employment and Training Administration. Washington, DC: Council on Competitiveness. [http://www.compete.org/images/uploads/File/PDF%20Files/CoC\\_Illuminate\\_2008.pdf](http://www.compete.org/images/uploads/File/PDF%20Files/CoC_Illuminate_2008.pdf) (accessed September 26, 2014).
- Mills, Karen G., Elizabeth B. Reynolds, and Andrew Reamer. 2008. *Clusters and Competitiveness: A New Federal Role for Stimulating Regional Economies*. Washington, DC: Brookings Institution. <http://www.brookings.edu/~media/research/files/reports/2008/4/competitiveness%20mills/clusters%20report.pdf> (accessed September 26, 2014).
- Porter, Michael E. 1998. "Clusters and the New Economics of Competition." *Harvard Business Review* November-December: 77–90.
- . 2003. "The Economic Performance of Regions." *Regional Studies* 37(6-7): 549–578.



# 15

## **Workforce Development in a Targeted, Multisector Economic Strategy**

### **The Case of State University of New York's College of Nanoscale Science and Engineering**

Laura I. Schultz  
*State University of New York Polytechnic Institute*

Alan Wagner  
Angela Gerace  
*University at Albany, State University of New York*

Thomas Gais  
*Rockefeller Institute of Government*

Jason E. Lane  
Lisa Montiel  
*State University of New York*

Cutting-edge strategies for regional economic development aim to harness and leverage the expertise and resources of universities, industry, and government to generate economic growth. Such strategies often follow the Triple Helix innovation model, building out innovation infrastructure to stimulate regional economic activity (Etzkowitz and Leydesdorff 1997). Economic growth emerges, in part, from a workforce with the skills needed to take up jobs within the R&D clusters and to attract new firms in associated sectors to the region (Schultz 2012; see also Bartik 2009 and Moretti 2012). This case study describes how the State University of New York's (SUNY) Colleges of Nanoscale Science and

Engineering (CNSE)—a state-supported, high tech/higher education, public-private partnership geared toward economic development—has led to transformation in the Capital Region’s workforce. More specifically, the case demonstrates CNSE’s roles in fostering the development of the nanotechnology workforce at different levels and types of education skills, in response to information about local employer demand. Initial results indicate the potential of CNSE’s approach to workforce development to address growing and evolving nano-related skill and workforce needs in the region and beyond, though further research is required.

## **CNSE AND ECONOMIC DEVELOPMENT**

Established in 2001, CNSE emerged as a key component of state policy development geared to reversing a long-term decline in New York’s upstate economy, particularly the loss of high-tech manufacturing, which had fallen to less than 4 percent of New York State’s economic output. At CNSE’s founding, New York State and IBM jointly invested \$150 million for the creation of a research center dedicated to nanoelectronics and nanotechnology, with CNSE also offering graduate degrees in nanoscale science and engineering. CNSE was selected to host the center based on its already extensive research portfolio in semiconductor fabrication and existing relationships with industrial partners such as IBM, SEMATECH, Texas Instruments, and General Electric (Schultz 2011). Following the Triple Helix framework, CNSE manifests a unique university-industry-government collaborative research center with a core mission of nanotechnology research and development, deployment, and economic development.

Since 2001, Tokyo Electron, Applied Materials, SEMATECH, and 300 other collaborators have joined IBM in colocating research operations at CNSE to take advantage of state of the art infrastructure for the development of next-generation technologies. To date, CNSE has attracted \$20 billion in private and public investment in the physical infrastructure needed for the research, development, and manufacturing scale-up of advanced nanotechnologies in areas such as semiconductors, electronics, energy, and pharmaceuticals (Schultz 2011). Nanotechnol-

ogy R&D carried out at CNSE has complemented substantial public and private investment in nanotechnology-related manufacturing in the Capital Region. In 2012, GlobalFoundries commenced production at its new \$4.6 billion chip manufacturing facility, Fab8 (with \$1.2 billion in New York State subsidies), in Malta, New York, which employs more than 2,200 workers. A \$10 billion expansion is expected to increase employment to 3,200 (Rulison 2014). Other companies now located in the Capital Region include equipment manufacturers Vistec and clean-room construction contractors M+W Group. In 2014, the SUNY Board of Trustees approved the merger of CNSE and the SUNY Institute of Technology (Utica, New York). The merged institution is named SUNY Polytechnic Institute.

## **CNSE AND WORKFORCE DEVELOPMENT IN NEW YORK'S CAPITAL REGION**

There is limited but growing information on labor market demand and needs for the Capital Region's nanotechnology economy. A particular difficulty with extant employment data from routine collections carried out by the U.S. Department of Labor is that existing classification schemes do not enable a good delineation of enterprises and employment in the nanotechnology economy. Specialized studies undertaken for nanotechnology-related industry nationally suggest that a wide range of education levels and skills is needed (Roco 2011; Yawson 2010). For the Capital Region, CNSE conducts its own quarterly census of nanotechnology employment. With the help of industrial partners, CNSE assembles information on the number of employees in nano-related manufacturing, by job description. As of 2013, CNSE and regional industrial partners accounted for over 7,000 employees in the Capital Region's nanotechnology economy.

Evidence on skills gaps and likely needs with respect to the regional nanotechnology economy is limited. The Siena Research Institute's (2014) annual survey of upstate business leaders elicits broad projections of hiring and broad assessments of the quality of the local workforce. These projections and assessments lack the detail necessary to guide the development and/or expansion of degree or training pro-

grams geared to nano-related industry. As employment in the sector has ramped up, the largest nanotechnology-based employer (Global Foundries) reported that the Capital Region's workforce supplied about half of those needed to fill its own job openings (Hagerty 2013). Many employers confront similar conditions, as reported in a Siena Research Institute survey, from a tabulation of responses to the question, "... is there an ample supply of local workers that are appropriately trained for your employment needs?" About half of upstate business leaders responded "yes," with somewhat lower shares for business leaders in the Albany region or for all upstate manufacturing. According to Global Foundries, the greatest difficulties appeared in recruitment of those with two-year degrees and specialized training in applied science, technology, engineering, and math (STEM) fields (Hagerty 2013). A 2008 report assessing upstate New York's potential for attracting nanoscale manufacturing, however, found that CNSE is a good source for well-trained engineering graduates (Semico Research Corporation 2008).

CNSE obtains information on likely employment needs, by education level and skill, partly through discussions with ongoing and new industrial partners. Within structured partnerships designed specifically to provide education and training, employers provide some indication of hiring needs. That input helps shape the size and design of the training provided. One very distinct example is the Center for Construction Trades Training, a partnership between primarily CNSE and M+W Group that provides specialized apprenticeship for union members needing to meet special demands of nanoscale construction. The partnership developed on the basis of skill needs of the industrial partner; it relies on CNSE for development and delivery of the curriculum and access to CNSE's industrial scale facilities for real-world experience.

CNSE also obtains information on likely employment needs from firms anticipating hiring. These firms seek the assistance of CNSE in recruitment of qualified workers in the near term through job fairs. From 2006 to 2013, CNSE-hosted job fairs have accounted for more than 1,500 job postings, covering the full span of education and training requirements as identified by the participating industrial partners. The volume and profile of posted job openings provide real-time measures of additional demand from employers. In addition, information on nano-related employment demand is found in publicly available agreements established between New York State and firms receiving

incentives to relocate in the Capital Region. These firms are obliged to report the number of jobs created and retained.

Table 15.1 contains brief descriptions of new, expanded, or modified workforce development programs yielding the qualifications and skills needed for nano-related jobs. As shown there, workforce development for the Capital Region's nano-related economic development aligns with the profile of the skill demands noted above. An important finding of this study is that CNSE is engaged at all levels and in all types of workforce development, not just its own academic degrees in nanoscale science and engineering. In what follows, we elaborate on the brief descriptions to convey more fully the levels and types of education and training provided, how information on workforce needs shaped the provision, CNSE's role, and specific program outcomes insofar as they can be gauged.

### **Graduate and Undergraduate Degrees**

CNSE's most direct role in workforce development is through the supply of graduates in nanoscale science and engineering at the bachelor's, master's, and PhD levels. The degree programs strongly complement CNSE's research and development work, as the most advanced students participate in that work and some graduates remain as post-docs. More broadly, expansion of the master's and bachelor's degree programs has followed growth in nanotechnology-related industry and associated employment demands. The college graduated its first PhD and master's degrees in 2004 and its first bachelor's degrees in 2013. Curricula are cross-disciplinary, with concentrations in materials engineering, nanobiology, nanoelectronics engineering, energy applications, and economic impacts. Graduates in nanobiology, for example, will have learned the physical, chemical, and engineering principles underlying the methods they are using.

CNSE's own data on graduates show that one-third have accepted positions in the nanotechnology economy in the Capital Region. At the graduate level, a little more than half (54 percent) take up jobs in New York State, almost all in nano-related industry. These data come from a regularly updated database of graduates, containing information on employment status, location of job, and salary. On selected metrics, CNSE's graduates are more likely to be employed in-field and in-state

**Table 15.1 College of Nanoscale Science and Engineering (CNSE) Engagement in Workforce Development for the Capital Region’s Nanotechnology Economy**

Level and type of skill development	CNSE as provider.	CNSE as partner.
Higher education		
Degree and certificate studies	<p>Bachelor’s degrees in nanoscale science and engineering.                      Graduates: 49 since 2013; 16 in 2014.</p> <p>Master’s and PhDs in nanoscale science and engineering.                      Graduates: 159 since 2004; 18 in 2014.</p>	<p>Nanotechnology-related associate’s degrees and certificates offered at six regional community and technical colleges. Coordinated through the Northeast Advanced Technological Education Center (NEATEC), a training and information center built on a community college/higher education/industry partnership.                      Funding: \$3 million from the National Science Foundation to establish NEATEC.                      Graduates (Four New York community college sites only): 156 since 2008, 36 in 2013.</p>
Internships	<p>Summer research internships for undergraduates, open to students outside CNSE</p>	<p>Internship for community college students, consisting of 20 weeks at CNSE and GlobalFoundries.</p>
Apprenticeship		<p>Center for Construction Trades Training, with M+W Group, offering training in nano-related construction.                      Funding: \$3.5 million, from state of New York, M+W Group, CNSE, and Arsenal Business and Technology Partnership.                      Completers: estimated 200 per year.</p>

On-the job training  
K–12 education  
Curriculum

CNSE technicians.

GlobalFoundries.

Tech Valley High School, regional “school of choice,” under governance of Capital Region and Questar III BOCES  
Funding: Boards of Cooperative Education Services (BOCES), New York State, school districts, and corporate and philanthropic sponsors.  
Graduates: 85 since 2011; 29 in 2013.

NanoHigh, with Albany City School District  
Completers: 125 since 2007; 13 in 2014.

Early College in High School, Ballston Spa Central School District, and Hudson Valley Community College.  
Funding: estimated \$350,000 to date from New York State and agencies, plus additional public funds through regional BOCES.  
Completers: 65 since 2013, 43 in 2014 (next year from 17 area school districts).

Field trips to CNSE and teacher development activities to enrich science, technology, and math classes.

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SOURCE: Information assembled from program materials, agency reports, newsletters, press releases, and interviews.

than is the case nationally or for other SUNY programs. With respect to field of employment, the most recent national survey of doctorate recipients showed that 11 percent of science and 40 percent of engineering doctorates accepted positions in industry—both lower than the CNSE experience. With respect to employment, unpublished results from an analysis of matched wage records for all SUNY graduates show that slightly less than half of all graduates with postbachelor's engineering degrees were employed in New York State. The latter figure is not comparable to the CNSE estimate. The SUNY-matched wage record data pick up employment two quarters after graduation, while CNSE's data are updated as faculty and staff learn about graduate employment. Moreover, the SUNY-matched record data include any employment for which a wage record is generated (and so would include, for example, doctoral graduates on postdoctoral appointments at CNSE or elsewhere in New York State). On this SUNY-matched record metric, the comparable in-state employment rate for CNSE master's and doctoral graduates is about two-thirds.

### **Community Colleges**

In 2005, Hudson Valley Community College, in partnership with CNSE and with input from local firms, established a new specialized semiconductor manufacturing technology associate degree program aimed at preparing graduates for jobs as clean-room technicians or workstation operators in the region's nano-related economy. By 2010, CNSE's engagement in such programs extended to six area community and technical colleges (four in New York, one in Vermont, and one in Massachusetts). The National Science Foundation-funded Northeast Advanced Technology Education Center provides the formal framework for the community colleges to engage with CNSE, other universities, and local employers to identify workforce training needs and develop and offer nanomanufacturing modules and specialized degrees. CNSE participates in curriculum development and offers hands-on instruction in its clean-room labs. Recently, CNSE and GlobalFoundries partnered with the programs to offer capstone internships that provide real-world experiences as students approach graduation.

The degree programs are relatively new, with limited information on the numbers of students enrolled, eventual graduates, and of grad-

uates, those employed. With reference to unpublished analyses from matched wage records for all SUNY graduates, an estimated 53 percent of all SUNY associate's degree recipients in engineering fields were employed in New York State in the second quarter after graduation. The comparable figure for the community colleges in New York providing specialized technology degrees in partnership with CNSE was slightly higher, at 54 percent. However, the latter calculations include all associate's degrees in engineering, and so do not provide a good measure of in-state employment rates for graduates from the specialized technology degree programs alone.

### **On-the-Job and Advanced Vocational Training**

Targeted nano-related workforce training needs are identified and programs developed in response to employer demand. At both the Center for Construction Trades Training, a partnership between CNSE and M+W Group to provide apprenticeship training related to nanoscale construction, and GlobalFoundries, which provides on-the-job training for workstation operators, employer-identified skill needs drive provision. CNSE's role resides in the development and delivery of the curriculum.

### **K–12 Education**

Workforce development associated with the region's nano-related economic development extends to the high school level. The learning opportunities include innovative nano-related science and technology coursework offered at Tech Valley High School, a regional "school of choice" relocating to CNSE, Albany High School's NanoHigh, and Ballston Spa's Early College High School, among others. Initiated by the school districts or regional Boards of Cooperative Education Services (BOCES) with state funding as additional incentive, these programs are shaped in part through engagement with CNSE. Teachers participate in CNSE workshops and receive curriculum materials from CNSE. Students learn in class sessions led by CNSE staff or on field trips to the clean-room labs at CNSE.

While similar if less intensive support for teaching and learning is made available by CNSE to schools and teachers throughout the Capital

Region, the more structured programs identified here purposefully lead students to advanced studies and eventual jobs in the field. In Ballston Spa's Early College High School program, students dual-enroll at Hudson Valley Community College, attend project-based classes at Hudson Valley's site in Malta, New York (some classes delivered by community college faculty), in the mornings, and on completion earn up to 20 credits toward a specialized nano-related associate's degree at the community college.

Information supplied by school officials shows that more than half of graduates of Tech Valley High School and a similar share of completers of Ballston Spa's Early College High School program appear to continue studies in science, technology, engineering, and math fields, including nano specializations. This rate of continuation into these fields is about four times the rate for all college-going high school graduates. The comparison, however, does not take account of differences in interests or other characteristics between students in the structured programs and those following regular high school course work. Yet, according to information supplied by school officials, the innovative technology-based programs just described enroll a good mix of students, from both urban and rural schools and from a range of socioeconomic backgrounds (as many as one-third are on free or reduced lunch and almost 20 percent have special needs).

## CONCLUSION

CNSE's engagement in workforce development follows the model of university-industry-government partnership adopted in the Capital Region's nanotechnology economic development strategy. As shown in Table 15.1, the school serves as a partner in most of the examples of education and training. In this way, it contributes to a much larger volume of nano-related workforce development than the number of its own degrees would suggest. Partnerships for CNSE take the form of collaboration with industry in identification of employment needs and the development of curricula, with other educational providers for delivery of instruction at all levels, and with local, state, and federal governments as well as industry partners for funding.

As the brief descriptions suggest, CNSE's engagement in workforce development varies by level and type and training. The school is fully responsible for the design and delivery of its own degree programs and internships and training for those working in clean labs on-site. For community college partnerships, CNSE works with industrial partners as well as other universities and the community colleges to discern the employment needs, design the curricula, and deliver the instruction. For specialized training partnerships, it assumes responsibility for the development and delivery of the training, but it relies on industrial partners for information on skill needs and program volume as well as financial support. For the high school partnerships, CNSE's role is largely in the domain of curriculum development and delivery. The school provides consistency across these levels and types of education and training insofar as it ensures coverage and depth of nanotechnology content and associated skill development. This consistency is achieved through CNSE's participation in curriculum development, instruction, and hands-on learning experiences. Yet, CNSE assumes no responsibility for the overall coordination of provision of the workforce development programs. It relies on partnership, and particularly on employer demand in terms of recruitment needs and skills requirement as manifested to CNSE or within existing partnerships, to initiate development of the programs.

Evidence on the effectiveness of such an approach remains limited, if suggestive. Job postings, employer requests for training, and employer expectations of likely employment needs are anchored on the demand side, and thus are more closely tied to near-term economic activity. Data on employment outcomes of the programs remain incomplete and dispersed. Information needed to assess the supply response to evolving employment needs is not (yet) available. The development of such information represents a useful target for further work.

Notwithstanding the limitations, such evidence as exists raises the possibility that workforce development programs organized through partnerships may facilitate a dynamic response to changing employment needs in the nano-economy, allowing for expansion of provision where demand for skills warrant it and for elimination of provision when demand or requisite program requirements are not met. Moreover, for CNSE, engagement through partnerships makes sense when the levels and types of education and skills being developed extend beyond its

own specialized bachelor's and advanced degrees in nanoscale science and engineering. Through CNSE and with financial incentives and other considerations, New York State now seeks to replicate the collaborative university-industry-government model for economic development in other upstate regions.

## References

- Bartik, Timothy. 2009. "What Works in State Economic Development?" In *Growing the State Economy: Evidence-Based Policy Options*. Wisconsin Family Impact Seminar Briefing Report FIS 27, Stephanie Eddy and Karen Bogenschneider, eds. Madison, WI: University of Wisconsin Co-operative Extension, pp. 15–29.
- Etzkowitz, Henry, and Loet Leydesdorff, eds. 1997. *Universities in the Global Knowledge Economy: A Triple Helix of University-Industry-Government Relations*. London: Cassell Academics.
- Hagerty, James R. 2013. "Math, Science Degrees? Apply Here." *Wall Street Journal*, October 21, B:4.
- Moretti, Enrico. 2012. *The New Geography of Jobs*. New York: Houghton Mifflin Harcourt Publishing.
- Roco, Mihail C. 2011. "The Long View of Nanotechnology Development: The National Nanotechnology Initiative at 10 Years." *Journal of Nanoparticle Research* 13(2): 427–445. doi:10.1007/s11051-010-0192-z (accessed September 27, 2014).
- Rulison, Larry. 2014. "Major Bucks into Fab8." *Albany Times Union*, March 27, E:1.
- Schultz, Laura I. 2011. "Nanotechnology's Triple Helix: A Case Study of the University at Albany's College of Nanoscale Science and Engineering." *Journal of Technology Transfer* 36(5): 546–564. doi:10.1007/s10961-010-9201-8 (accessed September 27, 2014).
- . 2012. "University Industry Government Collaboration for Economic Growth." In *Universities and Colleges as Economic Drivers*, Jason E. Lane and D. Bruce Johnstone, eds. Albany, NY: State University of New York Press, pp. 129–162.
- Semico Research Corporation. 2008. *Upstate New York: Assessing the Economic Impact of Attracting Semiconductor Industry*. Phoenix, AZ: Semico Research Corporation.
- Siena Research Institute. 2014. 7th Annual Upstate New York Business Leader Survey. NYCEO2013 Crosstabs. Loudonville, NY: Siena College.
- Yawson, Robert M. 2010. "Skill Needs and Human Resources Development in the Emerging Field of Nanotechnology." *Journal of Vocational Education and Training* 62(3): 285–296.

# 16

## Connecting Workers to Credentials

### The Promise and Pitfalls of Awarding Academic Credit for Prior Learning

Heath J. Prince  
*University of Texas*

#### THE RECESSION, THE WEB, AND THE WORKFORCE

The practice of awarding academic credit for learning gained outside the classroom is not new. For decades, postsecondary institutions have established credit equivalency for skills or experience students have gained elsewhere. Add to this the longstanding practice of awarding academic credit via the Defense Activities Non-traditional Education Support (DANTES) system, or the College Level Examination Program (CLEP), and it becomes clear that postsecondary institutions, to various degrees, have long been attempting to avoid penalizing students by requiring them to sit through courses that they may have already mastered.

What is new for postsecondary institutions, however, is the rapid growth of this practice. One indication has been the evolution in the terminology used to refer to the practice, reflecting the debates around competency-based assessment that have expanded commensurate with the growth in its use: *prior-learning assessment*, most frequently associated with the Council for Adult and Experiential Learning's Learning-Counts.org initiative, gave way to *competency-based education* as the term du jour among proponents. More recently still, *direct assessment* more closely reflects the current discussions, as well as the direction in which the practice appears to be heading.

Moreover, as the terminology has evolved, the focus of the practice has shifted more recently from nontraditional students (e.g., adults)

looking for academic credit for workforce experience to any and all students able to demonstrate competency in a given postsecondary education subject. There is a difference in the distinction between assessment for the purposes of awarding traditional academic degrees and assessment related primarily to shorter-term educational certificates designed for nearer-term employment. This difference, I would suggest, is at the heart of tension between proponents and opponents of using assessment of competency to award credentials. I will return to this at the end of the chapter.

Growth in competency-based assessment is driven in large part by the confluence of four relatively contemporaneous forces: 1) the dramatic expansion of online learning, 2) the shift in the labor market to a demand for higher skills, 3) the most protracted economic downturn and slowest recovery in generations, and 4) a shift in responsibility for skills upgrading from one shared with their employers to one that workers are now largely expected to carry on their own. Each of these factors has led increasing numbers of students, many of whom are non-traditional students, back to postsecondary institutions. Increasingly required, as they are, to compete on the “spot-market” for labor, many of these nontraditional students are returning not for a traditional academic degree but for educational certificates that can be quickly translated into employment.

Much of the recent attention given to assessment can be traced back to the efforts of advocates in the mid-2000s to address the apparent need to improve the skill levels of the growing percentage of the labor force who found themselves beyond the typical college-going age, without a postsecondary credential, and with skills that were rapidly becoming obsolete as automation and globalization took the toll that many had predicted. For proponents, assessment was viewed as a way to both address the shortage in higher skills and provide workers with more employment security by way of marketable skills and a postsecondary credential.

The U.S. Census Bureau’s Economics and Statistics Administration reports that just over 75 percent of the adult working population lack any sort of “alternative credential,” defined as either a certification, a license, or an educational certificate (Ewert and Kominski 2014). Notably, the report finds that 86.5 percent of those not in the labor force, and 84.2 percent of the unemployed lack an alternative credential, com-

pared to 68.8 percent of the employed. The authors report that, “[o]verall, people working full-time with alternative credentials earned more than those without any alternative credentials, and people working with professional certificates and licenses earned the most” (p. 7). And, in his State of the Union address in 2009, President Obama called for a commitment from every American to “at least one year or more of higher education,” among a list of prescriptions for pulling the economy out of decline, shoring up the middle class, and providing upward mobility for all (Obama 2009). This request, along with the goal to see the United States first in the world in college graduates by 2020, formed the core of the president’s “completion agenda.” The perceived need for some sort of postsecondary credential to succeed in the labor market, coupled with the brake on economic growth presumed to result from the high percentage of working adults without any sort of postsecondary credential, has added momentum to the rapid expansion in recent years in competency-based credentials, as well as to calls for the creation of a framework to help define the approach.

The chapter is organized as follows. The next section briefly reviews the terminology and gives an overview of the shortcomings of the current noncredit system, as perceived by advocates for a competency-based approach, in meeting the education and skill needs of the workforce. The section following illustrates how three states and three organizations assess skills for credit using a competency-based approach, bridging the gap between noncredit and for-credit postsecondary education. The next section outlines how the arguments used in favor of a competency-based framework for awarding occupational credentials have been adopted by advocates for direct assessment of competency for academic degrees, and the implications of this for competency-based assessment of occupational credentials. A brief note on the evidence of effectiveness of this approach follows, which is then followed by suggestions for disentangling the competency-based framework for awarding occupational credentials from the broader movement toward direct assessment for academic degrees.

## TERMINOLOGY

Regional accrediting bodies have begun to develop policies in response to new competency-based education approaches that potentially permit greater flexibility for students to learn at their own pace. This process has led to useful clarifications in terminology, such as that provided by the Southern Association of Colleges and Schools/Commission on Colleges (SACSCOC), the regional accrediting body for the 11 southern U.S. states. In 2013, SACSCOC adopted a policy statement on direct assessment and competency-based educational programs, becoming among the first of the regional accrediting bodies to do so. According to SACSCOC (2013), the policy is designed to provide guidance to institutions and evaluation committees on “the Commission’s expectations regarding the establishment and review of direct assessment competency-based programs and its [*sic*] hybrids,” in both career-technical and degree programs (p. 1).

SACSCOC identifies several defining characteristics (shown in Table 16.1) of direct assessment competency-based educational programs.

- Programs are distinct from conventional notions of the clock hour, seat time, term length, or the credit hour; rather, programs rely on the student’s ability to demonstrate clearly defined and measurable competencies in a designated program.
- Programs are designed and delivered within the framework of the program’s defined knowledge, skills, and competencies as demonstrated by students, rather than in terms of prescribed courses.
- A student may acquire the requisite competencies from multiple sources and at various times other than, or in addition to, the learning experiences provided by the institution. As such, the length of time it takes to demonstrate learning may be different for each student.
- Programs often allow for alternative approaches to teaching and learning.
- Programs may rely almost exclusively on students using direct assessment testing models to demonstrate their mastery of program and degree content.

**Table 16.1 SACSCOC Definition of Terms**

Terms	Definitions
Competency	A competency is a clearly defined and measurable statement of the knowledge, skill, and ability a student has acquired in a designated program.
Competency-based educational programs	A competency-based educational program is outcome-based and assesses a student's attainment of competencies as the sole means of determining whether the student earns a degree or a credential. Such programs may be organized around traditional course-based units (credit or clock hours) that students must earn to complete their educational program, or may depart from course-based units (credit or clock hours) to rely solely on the attainment of defined competencies.
Direct assessment	A competency-based educational program as an instructional program that, <i>in lieu of credit hours or clock hours as a measure of student learning</i> , uses direct assessment of student learning <i>relying solely on the attainment of defined competencies</i> , or recognizes the direct assessment of student learning by others (emphases added). The assessment must be consistent with the accreditation of the institution or program using the results of the assessment.
Hybrid competency-based educational programs	A hybrid competency-based educational program combines course-based competencies (clock and credit hours awarded) with non-course-based competencies (no clock or credit hours awarded).

Elements of SACSCOC's definition of direct assessment programs appear in many of the efforts undertaken by postsecondary institutions, and in a growing number of states, to award academic credit for education and skills earned outside a traditional postsecondary setting. In theory, this approach potentially benefits unemployed and underemployed workers who are faced with few options for advancing in the labor market other than earning a postsecondary credential that signals a marketable skill. These state and institutional efforts are taking hold, moreover, as a result of the current disconnection between the noncredit and credit-bearing sides of postsecondary education.

## NONCREDIT VS. CREDIT-BEARING PROGRAMS

The perceived need for a competency-based approach for awarding academic credit is influenced, at least in part, by the significant percentage of the working population that typically enrolls in a wide variety of noncredit postsecondary courses, often for skills training directly tied to employment, and often outside higher education institutions. Advocates for a competency-based approach see this population as a source of potential candidates for credential-conferring programs if equivalence between noncredit and credit offerings can be determined. Academic credit for prior learning could, so the argument goes, be awarded as an enticement to matriculate into credit-bearing courses, and participants who may typically be reluctant to return to higher education (or enter for the first time) would then do so with the understanding that they would earn a certificate or credential at an accelerated rate. When this approach succeeds, as it appears to have in Ohio, Indiana, Wisconsin, and a few other states, it has the potential to address both the worker's need for higher-level skills and the "completion agenda" meant to benefit the broader economy.

However, this relatively straightforward rubric—identify credit-bearing equivalencies for noncredit prior learning, award credit to workers, enroll them in credit-bearing programs, and award them an industry-recognized credential with value in the labor market—is not without significant hurdles, as discussed below.

This rubric has evolved, fairly rapidly, into an approach far afield from its origins, with policy and pedagogical implications that threaten to undermine what has the potential to significantly increase the education and skill levels of the workforce. As it has morphed into an approach to higher education in general, competency-based assessment as a workforce development strategy has suffered from the backlash that has come primarily in response to the perception of direct assessment of competency as a threat to traditional notions of how higher education is best delivered (i.e., seat time).

## **Identifying the Need for a Competency-Based Framework**

Advocates for a competency-based credentialing system cite several shortcomings in the current noncredit system that prevent it from meeting the demands of the labor market. Inadequate data reporting on noncredit programs, poor quality-assurance mechanisms, and a lack of transparency regarding the value of noncredit occupational credentials are just a few of the more significant barriers cited.

### **Data reporting**

The vast bulk of noncredit postsecondary education operates outside the traditional discussions of postsecondary policy, and most federal and state data collection systems exclude these programs. The federal Integrated Postsecondary Education Data System (IPEDS), for example, collects data only on students enrolled in credit-bearing programs, and it even excludes students enrolled in for-credit but nondegree programs. State and institutional data systems use different metrics for counting credit and noncredit programs, and there is variation within states in the metrics used for counting noncredit education (e.g., hours of training, unduplicated enrollment, type of programs, outcomes). Neither the federal government nor the states collect data on certificates and certifications offered outside higher education (Bird, Ganzglass, and Prince 2011). In the absence of reliable data on enrollment and completion, the labor market impacts of noncredit postsecondary education are difficult, at best, to determine.

### **Quality assurance**

Advocates for a competency-based approach also point to the absence of consistent measures or processes for assessing program effectiveness. Noncredit education is rarely subject to academic or faculty protocols associated with securing approval to offer courses for credit. Moreover, noncredit programs offered by community colleges, the primary source for these programs, use diverse measures of quality, reflecting their diverse purposes and customers. For example, the accountability measures for training low-income adults and dislocated workers funded through the Workforce Investment Act focus on students' employment and earnings outcomes, while the effectiveness of

training customized to employers' specifications may be measured in terms of improved worker performance. Other training may be measured in terms of students' success in passing industry certifications or earning professional licenses (Bird, Ganzglass, and Prince 2011).

Further, there is a wide array of private sector certifying and accrediting bodies, each with its own protocols and quality-assurance mechanisms. And, while some employer-financed education leads to postsecondary credentials or degrees—for example, through tuition reimbursement programs—most employer-sponsored and employer-funded technical training is noncredit and is offered by either the employer directly, educational institutions, or private vendors (Bird, Ganzglass, and Prince 2011).

### **Transparency of credential value**

For advocates of a competency-based approach, perhaps the highest hurdle between the current noncredit system and a system that can, with a high degree of fidelity, produce a workforce with the education and skills required by the labor market is the perception that the current credential landscape is “crowded, chaotic, and confusing” to individuals, institutions, and employers (Bird, Ganzglass, and Prince 2011, p. 9). Each of these stakeholders report difficulty in navigating the education and training system and making choices that will give them access to the appropriate programs and credentials. Credentials include credit and noncredit certificates, educational degrees (e.g., diploma, associate's degree, bachelor's degree), registered apprenticeship certificates, and other credit and noncredit certifications of skills attainment. In some cases, students receive industry-approved certifications based on standardized tests; in other cases, they earn industry-approved licenses; in many cases, individual institutions offer certificates for completion of courses or programs with or without third-party validation. Some certificates target general learning outcomes; others reflect specific occupational competencies. Furthermore, critics of the current state of affairs in the United States also note that credentials are not always transferable across programs and geographies.

The lack of common definitions and standards underlying the myriad noncredit occupational credentials is said to contribute to confusion about which ones represent value and how they relate to academic

credentials. Moreover, the lack of industry-recognized credentials for lower-skilled jobs complicates efforts to build on-ramps to good jobs for low-skilled workers (Bird, Ganzglass, and Prince 2011).

Each of these factors has contributed to calls for a framework, based on an assessment of competency, for awarding industry certifications and postsecondary credentials. While early advocates for this sort of framework may have had in mind nontraditional postsecondary students who required a postsecondary credential to advance in the labor market, the use of assessment of competency as the primary metric for awarding academic credit toward a credential has expanded to include more advanced degrees and a wider cast of key players. As described below, Wisconsin provides one of the clearer examples of how a practice originally focused on relatively short-term occupation-oriented credentials has evolved, in short order, into an approach to higher education more generally.

## **THE REFORMATION: BRINGING COMPETENCY-BASED ASSESSMENT IN HIGHER EDUCATION OUT OF THE SHADOWS**

### **State-Level Innovations**

A competency-based framework would necessarily build on successful experiments in a handful of states over the past several years. Driven by local and regional economic development needs, as well as the need to increase the education and skills of the workforce, these states have effectively addressed the shortcomings of the noncredit system noted above, and have created noncredit-to-credit systems within their higher education institutions.

Much of this state- and institution-level innovation in matching noncredit learning to credit-bearing courses in the two systems falls into three broad categories:

- 1) Evaluation of prior learning through assessments of life and work experiences to document learning that is equivalent to college-level courses or competencies

- 2) Preapproval of courses through an articulation process or agreement that permits crosswalks or the determination of equivalencies between credits and industry certifications and other noncollegiate learning
- 3) Integrating noncredit learning into credit-bearing courses of study

Ohio, Indiana, and Wisconsin are among the leading states in operationalizing a competency-based approach for awarding postsecondary credit for education and skills acquired in a variety of nonpostsecondary settings.

### **Ohio**

The Career Technical Credit Transfer (CT<sup>2</sup>) initiative, which began in 2005, evolved from the Ohio Board of Regents' efforts to increase completion rates and improve the ability of students to transfer across the state's postsecondary institutions. (CT<sup>2</sup>) is a collaborative effort among the Ohio Board of Regents, the Ohio Department of Education's Office of Career-Technical Education, public secondary/adult career-technical education institutions, and state-supported colleges. The goal is to help ensure that workers can earn educational credit for technical instruction.

More recently, and with Governor Kasich's support, what began as an effort to ensure that postsecondary credits can transfer has led to a process for awarding academic credit for occupational and technical instruction provided through the state's Adult Career Centers (state-supported providers of career and technical education). (CT<sup>2</sup>) establishes criteria, policies, and procedures whereby students receive college credit for agreed-upon technical knowledge and skills in equivalent courses or programs that are based on industry-recognized standards.

Critical to the early success of Ohio (CT<sup>2</sup>)—16 different certifications awarded in 11 different occupations—is the process by which faculty and other stakeholders determine which types of occupational and technical instruction merit educational credit. The process involves several steps:

- Defining learning outcomes based on industry-recognized credentials

- Coming to agreement among members of faculty from Ohio public institutions of higher education and career-technical education institutions and content expert panels on these learning outcomes
- Matching course and learning materials based on the learning outcomes using the state's Course Equivalency Management System
- Submitting course and learning materials for approval
- Continuously reviewing course and learning materials for equivalency

Representatives from the state's Department of Education and post-secondary faculty collaborate on joint faculty/industry advisory panels that meet annually to align curricula with industry needs. And, while (CT<sup>2</sup>) may have been originally motivated primarily by a desire to improve the education and skill levels of Ohio's workforce, the state's recently adopted performance-based funding for all of its public higher education institutions has been a key driver of the state's continuing focus on assessment.

### **Indiana**

In addition to a portfolio review process to assess prior learning, as well as direct assessment through DANTES and the CLEP exams, Indiana's Ivy Tech Community College system uses a "certification crosswalk" to award academic credit for a wide range of industry certifications, including apprenticeships, provided through third-party certification organizations.

The certification crosswalk permits students seeking credit for prior learning to avoid the often lengthy portfolio review process, as well as the fees associated with it. Institutions potentially save time and money because they do not have to review each student's prior learning. The consistency achieved through the crosswalk also facilitates the transfer of credit across institutions. Ivy Tech's 23 campuses are in alignment on the approach as to how students and faculty develop and document their portfolio assessment for determining the awarding of credit for prior learning. In addition, each of the campuses agree on consistent cut scores for standardized tests that measure prior learning, such as the DANTES and CLEP exams.

**Evolving role of faculty.** A faculty-driven process in 2005 developed the crosswalk, and faculty continue to be involved in expanding and keeping it up to date as certifications and licenses change; each curricula committee meets at least once annually, and crosswalks are standing items on committee agenda. New academic advisors are trained in prior learning assessment (PLA) and in advising new students on how to take advantage of it.

This level of faculty support is a marked improvement from the early days of the crosswalk process, when the attitudes of all but a few of the more devoted faculty and advisors ranged from ambivalent to reluctant. Concerns among faculty centered on three main issues: 1) reputation of the institution, 2) the integrity of the degrees, and 3) standards regarding the institution's 15 credit hour residency policy. As the process has evolved, so have faculty concerns, with relatively few expressing dissatisfaction with the approach. As with traditional transfer, some faculty expressed a sentiment similar to, "If they didn't learn from me, they didn't learn it." Additionally, it is up to the receiving institutions whether credits earned via assessment are acceptable. However, articulation agreements between Ivy Tech and other Indiana higher education institutions have largely minimized this particular issue.

**Employer engagement.** Generally speaking, employers have played a smaller role in the certification crosswalk process than originally anticipated. However, administrators note that, for the most part, hiring employers are unaware of Ivy Tech's reliance on PLA, the certification crosswalk, or direct assessment, and seem to be largely unconcerned whether credits are earned through traditional seat time or via some type of competency-based assessment strategy.

### **Wisconsin**

Wisconsin's technical colleges consider apprenticeship-related instruction as approved academic programming with full program status. Students can earn 39 credits through an apprenticeship program, which can be applied toward the 60-credit Journeyworker Applied Associate in Science degree. While initially focused on the construction trades, Wisconsin's Department of Workforce Development and the Wisconsin Technical College System have taken steps to expand this

practice to include health care apprenticeships and skilled apprenticeship programs in green construction and energy-related occupations.

In addition, and with strong encouragement from the governor's office, the University of Wisconsin (UW) System has recently implemented its "UW Flexible Option" program, which, possibly more than any public university system to date, establishes a competency-based approach as the cornerstone to multiple degree and certificate programs. The UW System's approach provides self-paced, assessment-driven, competency-based certificates, as well as AA, BA, and BS degrees in a wide range of disciplines. The approach is promoted with television ads and online videos, and is targeted to nontraditional and adult learners as a way to earn a credential while working, maintaining a household, or being unemployed. All of the program offerings are accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools, and, with a nod to what is understood to be their target population's motivation, are touted to be valued by employers just as highly as those earned through traditional routes.

A few other states, including Kentucky and Oregon, have attempted to create similar competency-based postsecondary programs with varying degrees of success. Each, however, has as a common denominator the perceived need to shift from an input-based metric ("seat time") to an output-based metric (demonstration of competency) as the primary metric for determining postsecondary education and training effectiveness.

### **THIRD-PARTY ASSESSMENT**

Assessment of experiential or prior learning includes a variety of approaches, including portfolio assessments, standardized exams, and credit recommendations based on institutional or third-party evaluators of credit using nationally recognized criteria to recommend credit equivalencies for noncredit learning, and other types of learning that take place outside the traditional for-credit, postsecondary settings. The three examples below illustrate these approaches.

## **LearningCounts.org**

The Council for Adult and Experiential Learning (CAEL) has built a business around establishing and disseminating standards for awarding credit through PLA. The CAEL promotes a range of PLA options—including standardized exams, challenge exams, and formal evaluation of noncredit instruction—but it places special emphasis on the portfolio method of assessment.

CAEL's focus on PLA is motivated, in part, by the findings from its study, *Fueling the Race to Postsecondary Success* (CAEL 2010). In it, CAEL examines data on 62,475 adult students at 48 colleges and universities across the country and finds that students with PLA credit completed degrees at much higher rates than students without it. PLA students also had higher persistence rates and a faster time to completion. According to the study, student advisors believe that earning PLA credit can motivate students to persist in their studies and complete their degrees. It is also assumed once students understand that they have already learned “college-level” material, they may be more motivated to enroll.

While the portfolio option is available to many students, faculty evaluators must be trained to do the assessments according to nationally accepted standards, like CAEL's. As a result, CAEL reports that institutions often find it difficult to offer the portfolio option to many students or across a range of disciplines.

The CAEL study also finds that PLA had limited use in community colleges and served few students. When asked about these low usage rates, respondents reported to CAEL that PLA offerings were often inconsistent across colleges and departments, not promoted or advocated by advisors or faculty, or too narrow in scope or availability to meet students' needs.

## **The American Council on Education's College Credit Recommendation Service (CREDIT)**

ACE's CREDIT program, serving adults, educational institutions, and organizations, connects workplace learning with colleges by helping adults gain academic credit for formal courses and examinations taken outside traditional degree programs. CREDIT evaluates and validates

credit recommendations from organizations providing noncollegiate-sponsored instruction, including job training, apprenticeship, and work-force-readiness programs provided by employers, unions, CBOs, and business or professional associations.

Since 1945, ACE's Military Evaluations Program has used subject-matter experts and academic faculty to review courses and conduct site visits to analyze course and program content, and it has relied on evaluator consensus in determining the learning outcomes and appropriate educational credit recommendations. CREDIT provides guidance to service members, civilians, military education centers, and colleges interpreting military transcripts and documents.

### **National College Credit Recommendation Service**

Since 1973, the Board of Regents of the University of the State of New York has operated the National College Credit Recommendation Service (NCCRS). Similar to ACE's CREDIT program, the NCCRS reviews formal courses and educational programs in a wide variety of subjects sponsored by noncollegiate organizations, makes college-level credit recommendations for the courses and programs evaluated, and promotes academic recognition of these learning experiences to the nation's colleges. Over 1,500 institutions have said they are willing to consider awarding credit for learning experiences evaluated by the NCCRS, and additional institutions use these credit recommendations in conjunction with individualized portfolio assessments for adult learners.

## **FEDERAL SUPPORT**

Seen by advocates as a federal-level endorsement of a competency-based approach to credentials, the U.S. Department of Education (2013) issued a "Dear Colleague" letter, in which it reiterated the leeway granted to postsecondary institutions for providing federal student aid for competency-based programs in the final rule for the Higher Education Reconciliation Act of 2005. The department also acknowledged the expansion of competency-based programs over the past several

years and endorsed them for their potential for “assuring the quality and extent of learning, shortening the time to degree/certificate completion, developing stackable credentials that ease student transitions between school and work, and reducing the overall cost of education for both career-technical and degree programs.” While the department recognized that the guidance may not fully address the need for Title IV support, particularly regarding financial aid for fees associated with assessments of prior learning, the letter served as a clear indication that the department would be unlikely to slow the trend toward assessment in competency-based programs over traditional seat-time programs.

## **THE LUMINA FOUNDATION’S TUNING USA PROJECT**

As long as it remained limited to occupational skills and experience earned outside of higher education setting, the competency-based approach to awarding academic credit remained relatively uncontroversial. Indeed, in states like Indiana, faculty and higher education administrators have been integral in the approach’s expansion within institutions. A turning point in this attitude, however, may be dated to approximately the time when a competency-based approach began to be applied to traditional academic degrees. The Lumina Foundation’s Tuning USA project may mark the beginning of this shift.

The Lumina Foundation’s Degree Qualifications Profile, a product of the foundation’s Tuning USA initiative, builds on the work of similar and ongoing processes in the European Union to identify specific learning outcomes for associate’s, bachelor’s, and master’s degrees. Tuning USA is the most comprehensive effort to date to create a national, competency-based qualifications framework for postsecondary education.

Since 2009, the Lumina Foundation has administered the Tuning USA pilot, with the aim to

- award comparable degrees based upon defined, criterion-referenced learning outcomes;
- promote college access and student mobility; and
- embrace the need for increased degree attainment (McKiernan and Birtwistle 2010).

In January 2011, the foundation issued *Degree Qualifications Profile for Associate's, Bachelor's and Master's Degrees* (the *Degree Profile*) (Adelman et al. 2011). The *Degree Profile*

highlights specific student learning outcomes that should define associate's, bachelor's, and master's degrees in terms of what students should know, understand and be able to do upon earning these degrees. *As the Degree Profile defines competencies in ways meant to emphasize both the cumulative integration of learning from many sources and the application of learning in a variety of practical settings, it seeks to offer benchmarks for high quality learning. . . .* It is meant also to provide a common vocabulary to encourage the sharing of good practice, to offer a foundation for better public understanding, and to establish reference points for accountability far stronger than those now in use (emphasis added). (Adelman et al. 2011)

The *Degree Profile* begins to define the overarching student outcomes, rather than subject-specific learning outcomes and competencies, that a student must demonstrate in order to be awarded a degree at the associate's, bachelor's, and master's levels in the United States. For each degree level, the profile identifies core competencies that collectively define the requirements for a specific degree. These cores grow progressively larger as students build on their knowledge, and the growth in learning is expected to be predictable and transparent to all involved.

The *Degree Profile* describes student performance appropriate for each degree level through clear reference points that indicate the incremental and cumulative nature of learning. *Focusing on conceptual knowledge and essential competencies and their applications, the Degree Profile illustrates how students should be expected to perform at progressively more challenging levels.* Students' demonstrated achievement in performing at these ascending levels creates the grounds on which degrees are awarded (emphasis added). (Adelman et al. 2011)

As the competency-based approach has moved beyond identifying overarching student outcomes and competencies and, in fact, adopts *subject-specific* outcomes and competencies, it has begun to court controversy. Moreover, as it evolves from a workforce development strategy into a strategy that has implications for all of postsecondary edu-

cation, the approach runs the risk of being undermined altogether by staunch supporters of more traditional higher education methods.

## **EVALUATIONS OF COMPETENCY-BASED APPROACHES TO AWARDING CREDENTIALS**

Despite the proliferation of institutions employing the practice, a review of the evaluation literature finds that there have been no recent, rigorous evaluations of competency-based assessment outside the medical field. Left unaddressed are critical questions regarding the practice, not least of which is whether acceleration of awarding of credentials undermines learning. The vast bulk of the material produced on the practice is descriptive and normative, with some solid analysis of the political dynamics produced by postsecondary education industry journalists (e.g., see Fain [2012, 2013]).

Even anecdotal evidence, beyond the promotional spots in online and television advertisements, in favor of or opposed to competency-based assessment is difficult to come by. Its intuitive appeal—the potential to increase enrollment, speed up time to completion, minimize duplication of a student’s effort, and more rapidly equip the national workforce with higher-order skills—rather than evidence has been the practice’s primary selling point. However, the practice has been in place, in multiple variations, long enough that it would appear that this is a topic ripe for an impact evaluation.

A bill introduced in the 113th Congress, H.R. 3136, would create the “Advancing Competency-Based Education Demonstration Project Act of 2013,” and would require that the demonstration be evaluated in terms of student progress toward retention and completion of recognized degree programs. The introduction of this bill follows the guidance provided by the U.S. Department of Education (described above), which outlines how institutions can have competency-based programs approved under current regulations relating to direct assessment programs. If passed, H.R. 3136 would potentially provide federal support for substantive evaluations of the practice.

## **THE COUNTER-REFORMATION: BACKLASH AGAINST COMPETENCY-BASED ASSESSMENT**

While the Lumina Foundation's Degree Profile is focused primarily on competency assessment within general education degree programs rather than on programs oriented more toward occupational education and training, its emphasis on defining competency, assessing competency, and basing advancement on demonstration of competency clearly parallels similar efforts by postsecondary institutions with regard to shorter-term, occupationally oriented offerings. And while competency-based assessment may be able to credit its recent popularity to the completion agenda and that agenda's desire to equip the workforce with college credentials, concerns over the approach have grown as it has moved onto more traditional postsecondary turf.

As it has shifted from a means to improve the occupational skills of the workforce (i.e., a workforce development strategy) to a shortcut to a traditional academic degree (i.e., a postsecondary education strategy), assessment has engendered a backlash among academics who argue that earning an occupational certificate in a postsecondary institution is all well and good, but granting academic credit for work experience in order to speed students through college undermines the purpose of higher education. Worse still for critics is direct assessment, which requires even less interaction with professors, students, and all else that postsecondary education has to offer. Competency as the sole means for determining academic credit is, for critics, a minimalist concept, and the entire movement from PLA to competency-based education to direct assessment represents a "creeping minimalism" that will likely lead to a devaluing of postsecondary credentials in general. The entire approach threatens the creation of multiple "universities without intellectuals," as noted critic of competency-based assessment Johann N. Neem refers to Western Governors University and similar institutions (Neem 2012, p. 70).

Perhaps the clearest signs of the emerging backlash can be found in the American Association of Colleges and Universities' (AAC&U) 2014 conference, the vast majority of which was devoted to competency-based education and direct assessment. Framing the issue in terms of educational quality over technologically acquired efficiencies,

and in terms of equipping postsecondary students with an education that can help them tackle the big questions and real-world challenges rather than simply provide them with skills required for their first job, AAC&U asks, “But in our fascination with the promise of technology, are we paying sufficient attention to the connection between innovation and educational quality . . . (and) can we instead judge the value of innovations by how well they create long-term opportunity, strengthen students’ capacities, and reverse the most inequitable features of U.S. higher education?” (AAC&U 2014).

Descriptions of panel presentations at the conference alluded to the tension suggested by the conference title. Panels included those addressing how institutes of higher education might best continue to develop civic-minded students in an atmosphere characterized by an increasing focus on workforce development, or those that defend the long overdue technological revolution that can give employers assurances of student competencies in workforce skills. Other panels, which included for-profit and nonprofit participants, spoke to the issue of quality in direct assessment competency-based programs. Still other sessions asked whether the road to competency-based education leads to an educational utopia or dystopia. A common denominator among each of these discussions appeared to be the recognition that postsecondary credentials are increasingly required for success in the labor market, and that the increasing cost of postsecondary education was driving toward innovation in terms of delivery.

The online journal *Inside Higher Ed* has documented the rapid evolution of assessment from helpful tool for nontraditional students looking for postsecondary credit for prior learning to at least a “disruptive” force, or at worst part of the “creative destruction” of postsecondary education as we know it (*Economist* 2014). *Inside Higher Ed*’s coverage from approximately May 2012 forward has couched the growth of assessment of competency in terms of career advancement, and as an approach with particular appeal to workers looking to convert technical trade certificates and skills into credit for academic credentials. *Inside Higher Ed* also foreshadows the potential for online learning and massive open online courses (MOOCs) to drive demand for competency-based assessment in ways that are difficult to predict. Fain (2012) writes, “One reason many colleges are skittish about granting credits for prior learning is because to do so is to acknowledge that the acad-

emy doesn't have a lock on college-level learning. Some faculty members also view the process warily, arguing that it can be an academically suspect money grab and a weak substitute for college. Prior learning could also threaten professors' jobs."

By early 2013, *Inside Higher Ed* had documented the push for "alternative credit pathways" coming from "the college completion agenda, workforce development, and money worries (buffeting) colleges." In addition, the journal reported on ACE's endorsement of extending credit recommendations to courses delivered via MOOCs and other nonaccredited online providers. Despite ACE's endorsement, as well as deep-pocketed support from the Bill and Melinda Gates Foundation and the Lumina Foundation, IHE reported that the acceptance of ACE's credit recommendations for courses delivered by nonaccredited providers was perhaps most popular with open access institutions and least popular with more selective colleges (Fain 2013).

Perhaps the most illuminating component of IHE's coverage, at least for the purposes of this chapter, is its chronicling of the evolution of the competency-based approach from one focused primarily on sub-baccalaureate workforce credentials to one that has become so intertwined with online instruction and the "creative destruction" of higher education that critics and advocates alike have difficulty teasing the two ideas apart. This is detrimental to PLA as a potentially transformative workforce development strategy.

As long as the labor market requires credentials to signal skill attainment, there will be a need for occupational training by a credential-granting institution. However, this brings into question the need for postsecondary education to validate skill attainment. Early advocates for community and technical colleges in this role believed that these institutions were better equipped to provide education and training services because, crucially, they have the potential to provide participants with career pathways and a mix of academic education and occupational skills (see Grubb [2000]).

However, an alternative rationale may have to do with the shift from a paradigm in which skills training was provided through apprenticeships or training on the job, where proof of skill attainment was demonstrated on the job and observed by supervisors. As this paradigm has shifted away from training done at the job site, with sharp reductions in the amount of training invested in lower-level workers, employers

are no less concerned about the skill levels of those they hire, only now the “proof” of skill attainment must come from elsewhere. Two-year postsecondary institutions have moved to fill this gap. If this alternative explanation better reflects reality, then the move by postsecondary institutions to conduct training has less to do with the type, rigor, or robustness of the training received, as suggested by early advocates, and more to do with the absence of traditional forms of skill validation, that is, demonstration of skill attainment on the job.

Occupational skills training programs are increasingly enrolling an older student population, often with significant work experience, who primarily want to earn a credential in order to advance in the labor market. For this population (as well as for the institutions), there is a premium placed on short-term, highly focused training. For employers, globalization has meant a push to reduce production costs, which results in investments in skills training, as well as pressure to hold wages down. This shifts the burden for the provision of needed skills to postsecondary institutions and, ultimately, to the workers themselves in the form of tuition and fees. In this environment, the evolving model—competency-based education, online instruction, direct assessment of skills, and learning for credit—makes some sense for occupational skills training, although it is probably not an ideal type.

This motivation does not apply to traditional postsecondary academic programs, in which students are believed to benefit from longer-term exposure to a wide range of subjects, unlike the short-term, highly focused instruction provided through programs that are primarily occupational-skills oriented. The exploratory aspect associated with academically oriented higher education is potentially undermined by directly assessing skills and knowledge in order to fast-track a student from enrollment to credential attainment. Yet, what might be seen as two distinct functions of postsecondary education—one driven primarily by the need to equip individuals with occupational skills, and one driven by an academic mission—becomes conflated beneath the push toward granting any type of credential based on a demonstration of competency. The backlash against competency-based credentials and direct assessment will then inevitably include occupational skills credentials.

## **PRIVATE SECTOR INTEREST**

Proprietary institutions have moved quickly into the space opened up by the confluence of online learning, the demand for higher skills to advance in the labor market, and the need for a more highly educated (credentialed) and skilled workforce. However, concerns have begun to surface about the potential for for-profit schools to lower standards for determining competency (a more recent version of long-held suspicions that the practice was simply a cover for unscrupulous diploma mills), as well as the fact that the expansion of the practice has significantly outpaced the research on its effectiveness.

Nonetheless, private, for-profit schools are among the mix of schools, along with private nonprofits, public, and online schools recently invited to participate in the Lumina Foundation’s “Competency-Based Education Network.” Per the press release issued from the Competency-Based Network (C-BEN) in 2014, the network will address “shared challenges to designing and developing competency-based degree programs and related business models” (C-BEN 2014). C-BEN roots its *raison d’être* in both social and economic necessity: “The movement toward competency-based academic delivery comes as the United States, to meet social and economic demands for more college graduates, must provide more education options for more students. Advocates believe academic programs that clearly define what students must know and be able to do to earn degrees in specific disciplines create significant potential to affordably help students from all backgrounds prepare for further education and employment.”

## **UNHITCHING THE COMPETENCY-BASED WORKFORCE CREDENTIAL FROM THE DIRECT ASSESSMENT DEGREE WAGON**

Recent work by advocates for competency-based credentials, especially the Corporation for a Skilled Workforce (CSW), may help to disentangle the practice of awarding “competency-based workforce credentials” from the more controversial “direct assessment” trend en

vogue in higher education more generally. For CSW and allies, including the Center for Law and Social Policy (CLASP), the American National Standards Institute and the National Skills Coalition, a distinction can be, and needs to be, made between these two by emphasizing several key strategies in the implementation of competency-based workforce credentials, including

- ensuring quality through the use of external accreditors who are attuned to the current needs of industry;
- expanding the use of competency-based workforce credentials by employers, including demonstrating a return on the investment of their time engaging in the credentialing effort;
- expanding the use of competency-based assessment among workers and students;
- expanding the take-up rate of competency-based workforce credentials among postsecondary institutions; and
- creating an infrastructure that can promote a market for competency-based workforce credentials, including quality assurance mechanisms, federal, state, and institutional policy support, and better coordination across the various competency-based credentialing efforts (CSW 2013).

These strategies, it is assumed, will contribute to a competency-based framework in which individuals can readily earn competency-based credentials and apply them to the labor market, providing the quality assurance that CSW and allies find missing in today's market for subdegree certificates, licenses, and credentials.

However, even this corrective action taken on by CSW runs the risk of being undermined by efforts led by its allies to create a "competency-based credentialing ecosystem" (CLASP 2014), as long as that particular effort fails to clarify the distinction between a market for "subdegree" credentials and a market for competency-based credentials in general, in addition to its implied support for "deinstitutionalizing education" (see CLASP [2014]).

## STRAW MAN OR WICKER MAN?

Critics of competency-based assessment typically question the motive behind the movement, and its shift into the higher ends of higher education has opened the practice up to questioning in a way that, while under the radar as a means to a relatively short-term occupational credential, it had not been. Now, the pedagogy appears to critics as market-driven, rather than education-driven, with metrics that include cost savings at the expense of instruction. However, some would argue that this is an inevitable outcome of the decades-old trend toward conflating vocational education with postsecondary education, or at least the liberal arts-oriented sort of postsecondary education that is designed to expand an individual's capabilities to choose multiple paths, rather than simply equip him with a skill that will enable him to better compete for work.

This trend is part and parcel of the broader tendency to shift to the individual the burden that was once more broadly shared with employers and society. Personal responsibility, instead of collective responsibility, has been a driving force in public policy in recent decades, so it follows that it falls to the individual to upgrade skills and maintain personal competitiveness. This shift toward personal responsibility for labor market success has opened the door to the current debate about how, rather than whether or to what extent, postsecondary education should meet the demand for skills required by employers. With the weakening of the labor movement has come the near-disappearance of apprenticeship programs and union contracts that performed many of the functions now expected of higher education.

The initial push that started the current assessment ball rolling was justified by claims that the existing credential landscape is too confusing to serve either employers or workers well, and that a simpler, more transparent method (i.e., awarding credentials based on an assessment of competency) is required if workers, employers, and the economy as a whole are to regain their competitive edge. However, while it is logical to assume that an undereducated workforce serves no one well, it is a leap to then assert that awarding postsecondary credentials based on a demonstration of competency will solve this problem. Given the absence of research pointing to the confusing credential landscape as

the, or even a, culprit behind our dulled competitive edge, arguments pinning the blame on the status quo seem a bit too much like a straw man for advocates for the “creative destruction” of the postsecondary system.

Instead, the infrastructure being built up around the push for competency-based assessment can seem at times more like a wicker man, in which traditional higher education is meant to be offered up in the name of the “free market” and its demands for better, faster, cheaper.

A helpful exercise for advocates would be to return to the rubric outlined near the beginning of the chapter—identify credit-bearing equivalencies for noncredit, prior-learning; award credit to workers; enroll them in credit-bearing programs; and award them an industry-recognized, competency-based workforce credential with value in the labor market—and to keep the focus on this approach as a workforce development approach, rather than a means to “disrupt” postsecondary education in general. Advocates would benefit, too, from revisiting successful approaches to identifying credit equivalencies for noncredit learning, as is currently practiced in Ohio and Indiana, and building scalable approaches based on the years of experience put into these practices. The benefits of remaining tightly focused on meeting the demand for competency-based workforce credentials would likely outweigh the costs of wading about in the mire that is the debate around self-paced, online, direct assessment of competencies in pursuit of a postsecondary degree.

## References

- Adelman, Cliff, Peter Ewell, Paul Gaston, Carol Geary Schneider. 2011. *The Degree Qualifications Profile*. Indianapolis, IN: Lumina Foundation.
- American Association of Colleges and Universities (AAC&U). 2014. “About the Annual Meeting.” Presented at the AAC&U annual meeting, held in Washington, DC, January 22–25.
- Bird, Keith, Evelyn Ganzglass, and Heath Prince. 2011. “Giving Credit Where Credit Is Due: Creating a Competency-Based Qualifications Framework for Postsecondary Education and Training.” Washington, DC: Center for Law and Social Policy.
- Center for Law and Social Policy (CLASP). 2014. “Call for a National Conversation on Creating a Competency-Based Credentialing Ecosystem.” Washington, DC: CLASP.

- Competency-Based Education Network. 2014. Press release, March 5. <http://cbennetwork.org> (accessed December 17, 2014).
- Corporation for a Skilled Workforce (CSW). 2013. *Making a Market for Competency-Based Credentials*. Ann Arbor, MI: Corporation for a Skilled Workforce.
- Council on Adult and Experiential Learning (CAEL). 2010. *Fueling the Race to Postsecondary Economic Success*. Chicago: CAEL.
- Economist*. 2014. "Creative Destruction: A Cost Crisis, Changing Labour Markets and New Technology Will Turn an Old Institution on Its Head." June 28. <http://www.economist.com/news/leaders/21605906-cost-crisis-changing-labour-markets-and-new-technology-will-turn-old-institution-its> (accessed December 17, 2014).
- Ewert, Stephanie, and Robert Kominski. 2014. "Measuring Alternative Educational Credentials 2012: Household Economic Studies." Washington, DC: U.S. Department of Commerce, Economics and Statistics Administration.
- Fain, Paul. 2012. "Creditworthy in the Keystone State." *Insider Higher Ed*, August 23. <https://www.insidehighered.com/news/2012/10/01/competency-based-education-may-get-boost> (accessed November 20, 2014).
- Fain, Paul. 2013. "Change from Within." *Insider Higher Ed*, March 4. <https://www.insidehighered.com/news/2013/03/04/ace-doubles-down-prior-learning-assessment> (accessed November 20, 2014).
- Grubb, W. Norton. 2000. "Second Chances in Changing Times: The Roles of Community Colleges in Advancing Low-Skilled Workers." In *Low-Wage Workers in the New Economy*. Richard Kazis and Marc S. Miller, eds. Washington, DC: Urban Institute, pp. 283–306.
- McKiernan, Holiday Hart, and Tim Birtwistle. 2010. "Making the Implicit Explicit: Demonstrating the Value Added of Higher Education by a Qualifications Framework." *Journal of College and University Law* 36(2): 512–560.
- Neem, Johann N. 2012. "A University without Intellectuals: Western Governors University and the Academy's Future Thought and Action." *The NEA Higher Education Journal* (Fall): 63–79.
- Obama, Barack. 2009. "Remarks of President Barack Obama—As Prepared for Delivery Address to Joint Session of Congress, February 24. Washington, DC. [http://www.whitehouse.gov/the\\_press\\_office/Remarks-of-President-Barack-Obama-Address-to-Joint-Session-of-Congress/](http://www.whitehouse.gov/the_press_office/Remarks-of-President-Barack-Obama-Address-to-Joint-Session-of-Congress/) (accessed December 17, 2014).
- Southern Association of Colleges and Schools/Commission on Colleges. 2013. *Direct Assessment Competency-Based Educational Programs: Policy Statement*. Decatur, GA: Southern Association of Colleges and Schools/Commission on Colleges.

U.S. Department of Education. 2013. "Dear Colleague Letter." Gen-13-10, March 19. Washington, DC: U.S. Department of Education. <http://ifap.ed.gov/dpcletters/GEN1310.html> (accessed February 3, 2015).