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Chutes & Ladders

The New Rules of the Game for Upskilling Workers



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THE INTERNATIONAL ECONOMIC DEVELOPMENT COUNCIL

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Introduction

Economic developers in the 21st century face new and dynamic challenges due to the changing structure of the global economy. Globalized markets increase competition, shortened technology lifecycles create a persistent demand for new skills, and changing expectations force businesses to become more real-time responsive. These evolutions are altering business models and strategies in unforeseen and consequential ways.

Established structures of education have not kept pace with this change. In the past, there was an idea that students were prepared for a career by the years they spent in school, with a distinct break between the education and working worlds. Today, that distinction is blurring. Students are increasingly working, learning about potential careers, and gaining knowledge through real-world experience, while workers are increasingly learning, pivoting out of careers that no longer serve them, or using new credentials to ascend to a higher position.

It is a phenomenon that has given rise to the term “working-learner,” a phrase that, when considered broadly, captures a large swath of the population. When considered in context of economic development, it is a model that many economic development organizations (EDOs) are currently supporting, without necessarily terming it as such. That may be because working-learning is fundamental to the way that economic developers view workforce development. EDOs that support programs like apprenticeships, targeted workforce training, and career fairs – all of which are included under the umbrella of working-learning (see FIGURE 1) — understand that a strong pipeline of qualified workers leads to business retention, expansion, and ultimately attraction.

If a comprehensive workforce development system featuring working-learning is not in place, and an established or new employer shows up with a request for workers, the model is often to try to jump-start the system to meet that need. This requires significant energy; from identifying curriculum and certifications, to establishing funding sources and engaging training providers, these efforts cannibalizes staff time and may or may not deliver the hoped-for results of a business expansion or company relocation. The alternative to this unproductive situation is a working-learning ecosystem that involves integrating programs and institutions across all levels and industries. Such programs meet the needs of employers and workers, strengthen the local economy, and build economic resilience over time.

FIGURE 1: Types of Working Learning Programs



Source: National Network – “Work and Learn in Action Successful Strategies for Employers.” November, 2015

What is a Working Learner?

Consider the following profiles. Each one is a working learner, although they are all at different points in their educations and careers. Are these profiles similar to people who might be working while learning in your community?

Courtney Rinard

Tahlequah, Oklahoma

Courtney Rinard, a young working learner, graduated from a state university with a B.A. in Communication Studies in 2015. She is currently pursuing a two-year M.S. in Environmental Studies at a public doctorate-granting university. She works part-time with a desert ecosystems research institute. She plans to return to Oklahoma to work with Native American communities, helping integrate local knowledge with modern scientific techniques to improve environmental management.



Kristen Snyder

Hartford, Connecticut

Kristen Snyder, a middle aged working learner, graduated from a public doctorate-awarding university with Bachelors in Education, majoring in sports management, in 1998. She founded, and managed, an accessible recreation and sports program affiliated with a private hospital in a northeastern state. She is now taking classes at a local community college to expand her skills in accounting and non-profit management so she can continue to expand the program she founded across the American northeast.



Michael Withers

Zanesville, Ohio

Michael Withers, a 54 year old working learner, has worked in various administrative capacities in several public and private universities for 28 years. He is interested in increasing his earning capabilities as he nears retirement. In order to pivot into a higher paying executive role at his current workplace, he has enrolled in an online certificate course in Higher Education Leadership and Management at an Ivy League institution. After retirement, he will use this credential to offer consulting services to higher education institutions across the country.



Working Learning Systems Benefit Companies and Communities

Workforce issues are major pain points for businesses. In many places, firms are facing a skills gap, which occurs when there are not enough people being trained in the right skills for in-demand jobs. This leads to a lack of employees and increased training costs when new employees are hired. Furthermore, if employees are not finding the work satisfactory, they may leave the job, and perhaps the region. The following list highlights employer pain points:

- **Unfilled Job Openings:** Employers are not able to fill critical job openings with qualified talent in the timeframes needed to meet business needs.
- **On-boarding and Upgrading Costs:** Employers are spending more money on-boarding recent hires and upgrading existing workers.
- **Turnover and Retention:** Employers are not able to retain workers who are leaving the industry and the region.

Working learning systems benefit businesses by solving a large part of the skills gap. Facilitating methods for existing workers to learn new skills and keep pace with technology keeps them engaged on the job, while ensuring their ability to take on new roles and more responsibility. Businesses benefit from working learning employees that are:

- Productive
- Technically competent
- Creative in problem-solving
- Constantly improving their skill-sets and remaining up-to-date
- Agile and flexible
- Adaptive to a competitive and dynamic economy

Working learning also benefits workers themselves. Most people consider employment as just one metric for assessing their life satisfaction. New research indicates that career success represents only about 25% of an individual's life satisfaction.¹ Additionally, the next generation of workers, the Millennials, indicate that the opportunity to grow and learn is the most important priority in a job.² In their jobs, workers today value:

- Quality of life
- Work-life balance
- Increased earnings potential

Working while learning is a model that satisfies the goals of both business and workers, which leads to increased productivity, workforce retention, and community well-being.

¹ N. A. Bowling, K. J. Eschleman, and Q. Wang. "A Meta-Analytic Examination of the Relationship Between Job Satisfaction and Subjective Well-Being," *Journal of Occupational and Organizational Psychology*, 83(4), 2010, pp. 915-934.

² J. Brandon Rigoni and Amy Adkins, "Millennial Job-Hoppers: What They Seek," Gallup. Retrieved September 16, 2016.

Working-Learning for Economic Developers

But what are the benefits of working-learning for economic development? In the realm of economic development, the increasing importance of workforce development cannot be ignored. According to a recent IEDC survey, nearly 64 percent of economic development professionals named workforce development as one of their top three priorities, and 72 percent noted that it had become a higher priority in the last 10 years. Over the past decade, the economic development profession has turned its focus toward workforce development; economic development organizations are working with regional workforce investment boards, educational institutions, and businesses with varying degrees of success in connecting these entities into a system that delivers skilled employees when they are needed.

Furthermore, reports indicate a growing majority of companies and site-selectors, from a diverse array of sectors, actively seek out and base their location decisions on workforce education attainment.³ This highlights the fact that in 2013, 39 percent of employers reported difficulty filling jobs due to lack of available talent.⁴ It is understandable, therefore, why companies seek out locations with deep workforce pipelines. But traditional workforce systems can be difficult to impact due to bureaucratic metrics or ingrained misalignment among institutions, making it complicated for communities in need of workforce improvements to effectuate change.

Working-learning models work both within and outside of the traditional workforce system. For instance, a traditional approach to workforce development is to create a program at a community college that addresses some industry training need. This can include apprenticeships, or students who are working part-time while upskilling. However, working-learning can also encompass out-of-the-box methods such as coding bootcamps, or specialized on-the-job training not funded by federal workforce dollars.

Economic developers are essential to creating strong working-learner systems because they serve as liaisons between the supply and demand sides of the workforce equation. Relocating or expanding businesses with workforce needs expect that an employee pipeline exists, or at the very least that employees will be trained quickly. Training entities—universities, community colleges, etc. — must be made aware of these workforce needs in order to create training programs that can supply these workers. Economic developers are often in the middle of this conversation, providing support in a variety of ways, from establishing industry focus groups to supplying workforce training incentives.

³ Phil Schneider, “*Workforce: The Location Factor Companies Must Get Right*,” Area Development Magazine. Retrieved September 16, 2016.

⁴ James Bessen, “*Employers Aren’t Just Whining – the ‘Skills Gap’ is Real*,” Harvard Business Review. Retrieved September 16, 2016.

The Importance of Working-Learning Now

Most successful workforce programs today are based on “sector strategies,” defined as partnerships between employers, training providers, community organizations, and other key stakeholders around specific industries to address the workforce needs of employers and the training, employment, and career advancement needs of workers.⁵ Considering the current and future workforce needs of growing sectors and aligning training and funding to build workforce pipelines to deliver those workers is best practice.

Yet, these systems cannot be successful without considering opportunities to work while learning. Working learning makes a sector strategy approach much more connected and comprehensive. For example, imagine a community with a growing tech sector. Students in the K-12 education system in this community are exposed to the industry through in-classroom presentations and career fairs. Those in high school can work part-time in tech fields through CTE programs, which gives them the chance to understand their options regarding further education, or pursuing employment directly upon graduation. Furthermore, they have the opportunity to test a career, and understand what would be required of them prior to investing time and money into further training or degrees.

As another layer of the workforce pipeline, this community has a university with a well-regarded computer engineering degree program. The degree program teaches the fundamentals of computer science, but is not able to quickly change its curriculum to accommodate new changes in technology. Therefore, the students at the university are learning about the most recent changes in the industry via internships, co-ops, and other experiential learning. They are also making connections throughout the local industry, which increases the chance that they will get a job and stay in the area.

In this community, tech industry veterans who have been in the workforce for a significant amount of time are encouraged to pursue certifications in new programming skills. These certifications are offered online, but paid for by joint funding from the local workforce investment board and the companies themselves. Additionally, this community has in place other means by which adults can on-ramp into this growing industry; a new coding bootcamp offers quick turnaround for training entry-level workers, while the community college offers associate degrees and certification programs for those looking to pivot into the industry. These programs target cohorts that may not typically be targeted by the tech industry such as ex-offenders and female students, and are funded by a local foundation.

This comprehensive example illustrates how sector strategies, which promote alignment among training, workforce, and other institutions, can be strengthened by including working learner models. Providing options to work while learning integrates students into industries more quickly, and assures increased earnings and opportunity for adults. And, with fast-moving industries such as technology, it is an essential part of keeping up with the latest trends.

⁵ National Governor’s Association, “*State Sector Strategies*.” Retrieved September 16, 2016.

EDOs' Role in Working Learning

The primary function of economic developers is the attraction, retention, and expansion of businesses in their community, with the goal of job creation and investment. Economic developers, therefore, have strong relationships with core businesses in their community and work with them to solve any problems that may lead to a business leaving a community. Increasingly, firms' major problems are related to workforce development. Economic developers seeking solutions to this conundrum are well-suited to implement working-learner programs.

Established Relationships

Economic developers have the skills to act as liaisons between all partners in order to form sustainable working-learner systems. As leaders in the community, they have the ability to build coalitions between educational institutions, funders, and businesses. They can act as administrators of programs, helping to assess what skills are needed and tracking metrics and successes. And, with their connections and marketing abilities, they can promote the program to the appropriate audiences, and represent the working-learner initiative as an economic benefit to the community.

Motivation

Besides strong relationships with employers, economic development organizations are in a good place to support and administer working learner programs because they are motivated to create more jobs and investment in their communities. Conversely, businesses – who often become de facto training providers – are typically focused on creating profits rather than supporting programs.

Businesses may find the prospect of investing in such a program to be intimidating. Creating workforce pipelines is not the core mission of businesses, as leaders in the private sector are focused on maintaining profits and management. The tasks of finding potential partners such as schools or universities, developing training programs and metrics, and marketing the program fall outside of their main priorities. However, these tasks are core competencies for economic developers.

Perspective

One other reason why economic developers are natural supporters of working-learning models is because they have the vantage point of seeing the community from a wider perspective than employers. By monitoring data on workforce, industry trends, and clusters, economic developers gain insight into upcoming workforce needs. Engaging economic developers in the working-learner model can expand the model to one that encompasses all businesses via a cluster-based approach.

By thinking about working-learning from a cluster perspective, training and work opportunities can be better targeted toward employer pain points. For example, looking across industry clusters can reveal a lack of skills in terms of business function, such as warehousing, nursing, precision machining, welding, and customer service, which can lead to certifications by specific job titles and categories such as machinist and registered nurse.

How EDOs Support Working-Learning

Succinctly, the organizing framework for economic developers participating in workforce and working learning takes on the following five aspects:

Aligning supply and demand

- Mapping industries that are growing and constricting; what skills are needed or are transferable?
- Understanding the makeup of the workforce; where could working-learning be a good fit?

Ensuring a robust workforce pipeline

- Taking inventory of the training programs in place in your community; are they flexible for working learners?
- Identifying weak spots in the pipeline; where is the disconnect?

Engaging the existing workforce

- An essential aspect of any workforce plan, since concentrating on students alone will not fix a major skills gap
- How can you reach this disparate group of working learners?
- Are there barriers in place for cohorts of your workforce such as ex-offenders, immigrants, or un-degreed?

Ensuring a community effort

- What partnerships can be cultivated to support working-learners; consider groups outside the norm, including philanthropies, churches, and educational institutions.
- Economic developers can take on the role of administrator, keeping track of metrics, roles, and goalposts.

Winning the deal

- A practical application of supporting the working-learning system to attract, retain or expand business

A Deeper Look at Why Supporting Working-Learning is Essential

With the world changing at an ever-faster pace, so, too, are the economic conditions that characterize it. Workplace norms, such as the nature and duration of contracts are changing, and average job tenures are shortening. Additionally, low and medium-skilled job growth is dissipating due to the expansion and sophistication of technology. All of this is occurring in the midst of an approaching leadership gap. Before the Baby Boomer generation leaves the workforce, the next generation needs to be trained and mentored so that institutional knowledge and experience is not lost. However, the existing skills and leadership gap is larger than education alone can fill. Career upskilling, on-the-job training, and other alternative training programs are needed to equip the existing workforce for jobs in emerging, high-growth industries. The global economy now demands continuous innovation, improvement, and learning from its workforce. In order to keep pace, new and collaborative approaches from education, business, industry, government, and economic development organizations are needed to maximize workforce outputs.

Jobs Do Not Equal Security

No longer can employees depend upon a job to offer long-term security. Employers are ever more divorced from their employees, reducing benefits, subcontracting, and outsourcing jobs abroad, among other things. The Bureau of Labor Statistics puts the average time spent at one job at 4.4 years, while Millennials expect to stay at the same job for fewer than three years.⁶ Workers are increasingly forced to provide for their own healthcare, manage retirement planning, keep skills and knowledge up-to-date, and bridge gaps in their incomes.⁷

According to a survey by the National Endowment for Financial Education, or NEFE, from 2008-2012 40 percent of U.S. working adults saw employer-sponsored benefits reduced or eliminated entirely. Further, the Corporate and Executive Board, a Washington, DC based research firm, produced a 2012 study predicting that by 2017 50 percent of Fortune 1000 organizations would drop health care coverage altogether due to competitive pressures and increased costs.⁸

Recent years have seen the rise of a so-called “gig economy”, whereby third party intermediaries connect individuals to pool or share their resources and earn small profits from doing so (Uber, Task Rabbit, and Airbnb are prime examples). A recent study by JP Morgan Chase finds that as many as 10.3 million Americans earned income through online platforms such as Uber or Airbnb between 2012 and 2015. The same study reports that on average, people earned \$530 per month (or 33 percent of their monthly income) from such platforms.⁹ The “gig economy’s” emergence and success highlights an economy in transition; employers are no longer committing to and retaining employees, and in response, individuals are becoming more entrepreneurial in order to generate reliable income streams.

Workers Replaced by Technology

Workers’ jobs and their sense of security face a threat from another source: technology. Digital technologies have begun to replace less-skilled and less-educated workers, including in unlikely fields such as translation and legal research, depressing wages in these fields.¹⁰ A recent study found that up to 71 percent of businesses have already automated IT work, or plan to do so.¹¹

While technology has increased overall productivity, wage growth has not followed suit, as FIGURE 2 illustrates. The historical correlation associating increased productivity with increased earnings is today being replaced by a trend linking opportunity and satisfaction with

⁶ Anya Kamenetz, “*The Four-Year Career*,” Fast Company. Retrieved September 16, 2016.

⁷ Maureen Conway, “*America’s Growing Divide Between Work and Wealth*,” CNN. Retrieved September 16, 2016.

⁸ Jessica Dickler, “*Goodbye Benefits: Employers Still Cutting Back*,” CNN. Retrieved September 16, 2016.

⁹ Tatiana Darie, “*Gig Economy Now 6.5% of U.S. Workforce; Provides Extra Income for 10 Million*,” Insurance Journal. Retrieved September 16, 2016.

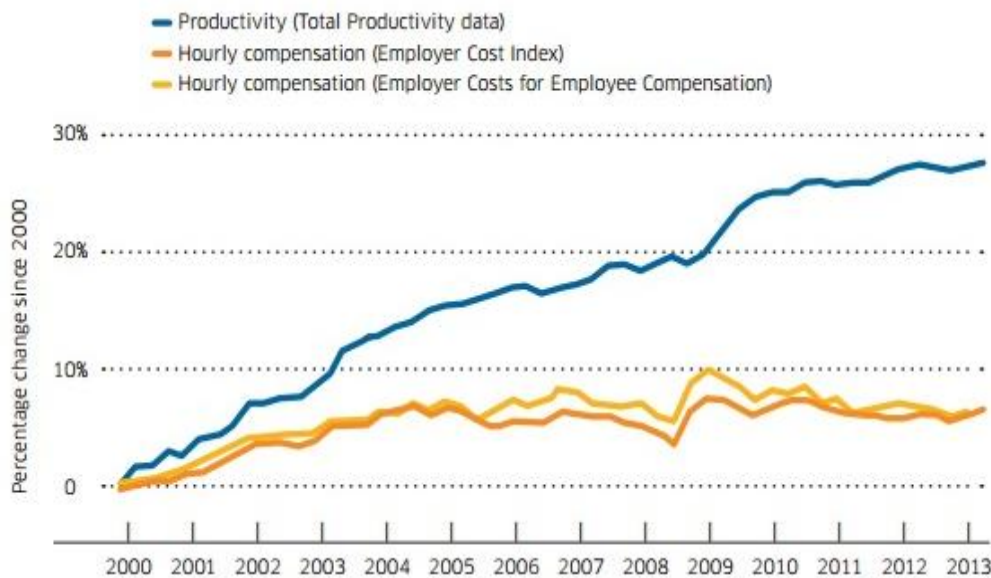
¹⁰ Andrew McAfee, “*The Great Decoupling of the US Economy*.” Retrieved on September 16, 2016.

¹¹ Teena Maddox, “*Research: 71% Already Automating IT Work, or Plan to*,” Tech Pro Research. Retrieved on September 16, 2016.

an overall performance in a variety of skills, abilities, and behaviors. According to John Naisbitt's seminal work, *Megatrends*, "In a world that is constantly changing, there is no one subject or set of subjects that will serve you for the foreseeable future, let alone for the rest of your life. The most important skill to acquire now is learning how to learn."¹²

In recent decades people have grown particularly concerned about the prospect of jobs being replaced by technology and machines. However, a recent study from the National Bureau of Economic Research indicates that some jobs are more at risk of this fate than others. "While computers perform cognitive tasks of rapidly increasing complexity," the study notes, "simple human interaction has proven difficult to automate. Since 1980, jobs with high social skill requirements have experienced greater relative growth throughout the wage distribution. Moreover, employment and wage growth has been strongest in jobs that require high levels of both cognitive skill and social skill."¹³ Identifying jobs not easily replicated by technology, and training a workforce to succeed in these jobs, will become an increasingly important function of economic development organizations as they develop sustainable growth strategies for their communities.

Figure 2: Productivity Growth Versus Wage Growth



Source: *The Economic Policy Institute: "A Decade of Flat Wages."* August, 2013.

Need to Keep-Up with Knowledge

Due to the frequency with which technical skills evolve in today's economy, workers are required to stay technologically up-to-date in order to remain valuable and competitive.¹⁴ To put the current pace of technological change into context, it is estimated that 65 percent of children

¹² The ACT Foundation, "*National Learning Economy: The New American Dream.*" Retrieved September 16, 2016.

¹³ David J. Deming, "The Growing Importance of Social Skills in the Labor Market," Harvard University and NBER. Retrieved September 16, 2016.

¹⁴ Partnership for 21st Century Learning, "*Framework for 21st Century Learning.*" Retrieved on September 16, 2016.

in elementary school today will have jobs that have not yet been invented.¹⁵ In her 2011 book, Cathy Davidson argues that the rapid emergence of new professions in coming years will necessitate system-wide education reform.¹⁶ With skills development and training increasingly becoming individual responsibilities, continued use of a 19th Century educational framework that emphasizes obedience, hierarchy, and schedules is proving to be less and less relevant. Rather than perpetuating use of an antiquated model, Davidson harkens back to the Socratic system of questions and answers or the agrarian system of problem-solving and apprenticeships as more appropriate models to use to educate the workforce of the 21st Century.¹⁷

Workplaces across the spectrum are requiring employees to remain knowledgeable about emerging industry trends and nimble about how they operate. Organizations are becoming leaner, less hierarchical, and more agile than they once were.¹⁸ They are more sensitive and responsive to competition, seek to identify value from customers, and continually reorganize and re-strategize to gain or maintain a competitive advantage.¹⁹ Consequently, workers are required to remain more flexible, consistently acquiring relevant and necessary skills and honing their leadership capabilities to ensure high levels of productivity.²⁰ The importance of continued learning and self improvement is particularly relevant in the post-recession economy. The fallout of the 2009 recession resulted in an increasingly polarized labor force due to a hollowing out of middle class jobs. Rather than seeing an equitable disbursement of new jobs among all income brackets, a barbell pattern has emerged in the years since 2009, with high-paying and low-paying job growth far outpacing middle class job growth. While this trend rightly concerns economists, there is evidence to indicate it is not permanent. According to MIT professor, Paul Osterman, “[The United States] has not become a barbell economy. As middle class Baby Boomers begin to retire en masse, there will be tremendous demand for these jobs.”²¹

Additionally, while it is true that manufacturing jobs have declined 35 percent since 1980, data from the U.S. Bureau of Labor Statistics points out that recently, American companies have been re-shoring jobs that require highly technical labor. These jobs may not be in abundant supply, but they are better and higher paying than their predecessors. Given that 80 percent of these new blue collar jobs require some training, the challenge now facing companies is how to secure a pipeline of qualified labor.²²

¹⁵ Virginia Heffernan, “Education Needs a Digital-Age Upgrade,” The New York Times. Retrieved Sept. 16, 2016.

¹⁶ Davidson, Cathy. “Now You See It: How Technology and Brain Science Will Transform Schools and Business for the 21st Century.” New York, NY, Penguin Books, 2011

¹⁷ Virginia Heffernan, “Education Needs a Digital-Age Upgrade,” The New York Times. Retrieved Sept. 16, 2016.

¹⁸ Judith Heerwagen, Kevin Kelly, and Kevin Kampschroer, “The Changing Nature of Organizations, Work, and Workplace,” National Institute of Building Sciences. Retrieved September 16, 2016.

¹⁹ Bradley Staats and David M. Upton, “Lean Knowledge Work,” Harvard Business Review. Retrieved Sept. 16, 2016.

²⁰ Judith Heerwagen, Kevin Kelly, and Kevin Kampschroer, “The Changing Nature of Organizations, Work, and Workplace,” National Institute of Building Sciences. Retrieved on September 16, 2016.

²¹ MaryJo Webster, “Where the Jobs are: the New Blue Collar,” USA Today. Retrieved September 16, 2016.

²² MaryJo Webster, “Where the Jobs are: the New Blue Collar,” USA Today. Retrieved September 16, 2016.

The Rise of Working Learners in the 21st Century

The structured, hierarchical approach to formal education entrenched in US culture since the 19th Century retains a strong influence to this day. It has long-presupposed that the pathway to success begins with the completion of a formal education, supplemented by informal, on-the-job learning. With the dawn of the 21st Century and the digital age, however, this traditional model is being upended and replaced by one that equates career success with life-long learning. Adaptability, continuous skill improvement, and perennial curiosity are attributes employers expect from their employees for the duration of their employment.²³

More College Students Less Served by Their Education

Recent reports have called into question the value of a four-year college degree. They cite rapidly increasing higher education costs, a soft jobs market, and stagnant wage growth as cause for a reexamination of the college value proposition. However, lost in the dialogue is a subtle but important distinction between the metrics of college graduates versus non-graduates. The fact is, among the 85 percent of high school seniors who matriculate to college, only half finish a degree within six years. Of those who graduate with a degree, opportunity abounds. Seventy-three percent of new jobs created since the recession have been filled by the 36 percent of the workforce with college degrees. College graduates are currently exposed to an impressively low unemployment rate of 2.5 percent. Their average lifetime earnings are \$1 million higher than non-graduates.²⁴

While both college graduates and non-graduates face average student loans of \$25,500, the 35 million Americans who have attended college without graduating face a much more difficult time servicing student loans than their degree-holding counterparts. Not surprisingly, non-graduates struggle to secure high-wage employment.²⁵ Now more than ever, the usefulness of a college education is directly tied to whether or not it results in a degree.

However, cultural shifts and changing work dynamics over the past several decades have created an environment in which many students' needs are no longer being met by colleges and universities.²⁶ In 1961, for example, 40 percent of students enrolled in higher education worked, and spent more than 40 hours per week studying or attending classes. Today, 75 percent of students enrolled in higher education work and spend 13 hours per week studying or attending classes. Thirty-eight percent of today's college students are over the age of 25, and 25 percent are raising children.²⁷ What's more, only a quarter of part-time students graduate, and just nine percent of students from low-income families earn degrees.

²³ Anthony P. Carnevale, Nicole Smith, Michelle Melton, and Eric W. Price, "Learning While Earning: The New Normal," Georgetown University, McCourt School of Public Policy. Retrieved on September 16, 2016.

²⁴ Peter McPherson, "How to Measure Success in Higher Ed? Not Just How Many Students Attend, but How Many Graduate," Los Angeles Times. Retrieved on September 16, 2016.

²⁵ Peter McPherson, "How to Measure Success in Higher Ed? Not Just How Many Students Attend, but How Many Graduate," Los Angeles Times. Retrieved on September 16, 2016.

²⁶ Jamie Merisotis, "America's College Students Have Changed. Will Federal Policy Keep Pace?," The Hill. Retrieved on September 16, 2016.

²⁷ Anthony P. Carnevale, Nicole Smith, Michelle Melton, and Eric W. Price, "Learning While Earning: The New Normal," Georgetown University, McCourt School of Public Policy. Retrieved on September 16, 2016.

Understanding the causes of these statistics and devising solutions is essential for undergraduate working learners to succeed in the workforce of the 21st century.²⁸

K-12

A rising number of schools have implemented, or are implementing, programs designed to connect students with experiential learning. Experiential Learning is defined as a “process through which students develop knowledge, skills, and values from direct experiences outside a traditional academic setting.”²⁹ Students who participate in experiential, work-based learning programs are provided an opportunity to understand the relevance their education has to real-world demands. It also allows students to apply school-acquired knowledge toward work in a more contextualized, meaningful way. High school apprenticeship programs can expose vocationally inclined students to technical careers. With technical skills in high demand, economic development organizations can act as bridge builders, linking high school curricula with workforce demands. Additionally, stigmas surrounding technical vocations may be erased if high schools teaching STEM courses equip graduates with the capacity to procure high-paying tech jobs.

Types of working-learning in K-12 are:

- Guest speakers – convey personal and professional experiences that can reinforce traditional lesson plans and provide context about their importance.
- Field trips – give students an opportunity to experience a variety of real-world environments not typically conveyed in traditional classroom settings.
- School-based enterprises – allow students to engage in entrepreneurial activities, with the added benefit of instructor oversight and guidance. This exposure encourages students to consider entrepreneurship as a viable career path.
- Job shadowing – exposes students to different career paths, working environments, and personalities. It helps students decide which careers are best aligned with their interests and academic strengths.
- Internships – provide students with professional experience, networking opportunities, and potential employment after graduation.

Community College Working Learners

Community colleges appeal to a broad range of people who seek interest-specific knowledge among a wide variety of topics. Many minority, low income, and first-generation students benefit from the skills and information community colleges impart. For many non-traditional students, such as those who are working while enrolled, community colleges provide access to an undergraduate education.³⁰ In 2014, 7.3 million students were enrolled in community colleges across the US. Among them, one-third had annual family incomes of less

²⁸ Jamie Merisotis, “America’s College Students Have Changed. Will Federal Policy Keep Pace?,” The Hill. Retrieved on September 16, 2016.

²⁹ UCDenver.edu, “What is Experiential Learning?,” Retrieved on September 16, 2016.

³⁰ American Association of Community Colleges, “Students at Community Colleges.” Retrieved on Sept. 16, 2016.

than \$20,000. Directly correlating with this statistic, nearly 70 percent of students report working while they are enrolled.³¹

Apprenticeships and cooperative education programs offered by many community colleges provide tangible value to students and employers alike. Designed to educate and train students for technical careers, apprenticeships allow students the ability to work while they are enrolled in community college. There are two main financial benefits of apprenticeship programs. First, the cost of tuition is typically paid for by the employer, and second, apprentices earn on average 70 percent more in their first job than graduates with liberal arts degrees from four-year colleges.³²

As the manufacturing industry grapples with a major labor shortage due to recent retirements among the Baby Boomer generation, apprenticeships offer a solution. They provide a means to upskill entry level employees, helping address the growing labor shortage. They also offer a means of attracting the unemployed population back into the workforce. The US Department of Labor has estimated that workers who successfully participate in apprenticeship programs earn an average starting salary of \$50,000 per year.³³

Cooperative education programs balance classroom education with work experience to develop and improve technical and vocational skills. In most cooperative education programs community colleges partner with the business community to align curriculum with regional workforce demands. This alignment helps ensure graduating students secure quality employment, and provides employers with a pipeline of well-trained employees. Additionally, cooperative education program participants receive compensation for time spent working.³⁴

Finally, many community colleges across the country offer dual enrollment courses to high school students. In 2013, nearly 2 million high school students took advantage of dual enrollment programs, whereby 66 percent enrolled in academic courses and 46 percent enrolled in courses with a tech or vocational focus.³⁵ Dual enrollment courses afford students the ability to obtain undergraduate credit and hone interests and skills before graduating from high school.

College Student Working Learners

According to Georgetown University's Center on Education and the Workforce, for the last 25 years more than 70 percent of college students have worked while attending school. Research shows that students who manage a part-time job while in college allocate their time more efficiently, learn about workplace expectations, and study harder to achieve professional goals.³⁶ These skills are valuable resources to employers, as is industry knowledge.

³¹ National Center for Education Statistics, "2011-2102 National Postsecondary Student Aid Study." Retrieved on September 16, 2016.

³² Tom Snyder, "Apprenticeship Programs at Community Colleges," The Huffington Post. Retrieved on Sept. 16, 2016

³³ Harold L. Sirkin, Michael Zinser, and Justin Rose, "The U.S. Skills Gap: Could it Threaten a Manufacturing Renaissance?," Boston Consulting Group Perspectives. Retrieved on September 16, 2016.

³⁴ Briana Boyington, "Understanding the Differences Between a Co-op, Internship," U.S. News. Retrieved on September 16, 2016.

³⁵ Nina Thomas, Stephanie Marken, Lucinda Gray, Laurie Lewis, and John Ralph, "Dual Credit and Exam-Based Courses in U.S. Public High Schools: 2010-11," Institute of Education Sciences. Retrieved on September 16, 2016.

³⁶ Jeffrey J. Selingo, "Why More Teenagers and College Students Need to Work While in School," The Washington Post. Retrieved on September 16, 2016.

A more focused, tailored way to gain professional experience while enrolled in college is through an internship. Internships serve as a valuable and effective way for students to experience work-based learning. Offered as either paid or unpaid positions, internships allow students to apply classroom-learned knowledge, decide if a profession is a good fit without making a long-term commitment, and develop upon existing skills.³⁷

Regardless of the type of work students perform in college, one thing is certain: the way in which colleges interact with and accommodate working-learners is insufficient. While student life-stages, obligations, and socioeconomic backgrounds have all become more diverse, colleges have not kept pace. As a result, student working learners often do not receive the institutional support they need to succeed.

Economic developers can and should insert themselves into the dialogue among students, colleges, and the business community. If colleges learn to adapt to and accommodate student and workforce needs, they position themselves to be able to better serve both.

Adult Learning is Essential

Given today's complex and rapidly changing social and economic dynamics, concentrating efforts on K-12 education is no longer sufficient to bridge the skills gap. Training fresh graduates and young students takes time, and cannot safeguard against attrition. Adult learning helps move experienced, and often more qualified, candidates into leadership roles. Consequently, adult working learners are more likely to earn higher salaries. More than 75 percent of young working learners earn less than \$60,000 annually, whereas only 60 percent of adult working learners earn less than \$60,000 annually.³⁸ Adult working learning may also help stabilize companies by replacing retiring leaders.

Adult Working Learners

A considerable percentage of the working learner population is comprised of mature adults. Research undertaken by the Georgetown University Center on Education and the Workforce shows that 40 percent of enrollment growth in educational institutions is from students above the age of 25.³⁹ Older adults undertake coursework in order to pivot to new fields, or advance in existing careers. According to Georgetown, about 51 percent of adult working learners are concentrated in three occupational fields: management, education and, sales and office support. This can be explained by the fact that adult working learners are more likely to be employed in occupations similar to their field of study.⁴⁰ Due to time constraints, adult working learners primarily enroll in open-admission community colleges and for-profit

³⁷ Heather Huhman, "Why You Should Get a Summer Internship," U.S. News. Retrieved on September 16, 2016.

³⁸ Anthony P. Carnevale, Nicole Smith, Michelle Melton, and Eric W. Price, "Learning While Earning: The New Normal," Georgetown University, McCourt School of Public Policy. Retrieved on September 16, 2016.

³⁹ Anthony P. Carnevale, Nicole Smith, Michelle Melton, and Eric W. Price, "Learning While Earning: The New Normal," Georgetown University, McCourt School of Public Policy. Retrieved on September 16, 2016.

⁴⁰ Anthony P. Carnevale, Nicole Smith, Michelle Melton, and Eric W. Price, "Learning While Earning: The New Normal," Georgetown University, McCourt School of Public Policy. Retrieved on September 16, 2016.pdf

colleges and universities, where they pursue relatively short-duration programs, such as certifications or Associate's degrees, which are generally two years or less.⁴¹

Adult working learners may receive on-the-job training in order to facilitate career advancement. Careers in manufacturing often require industry-specific knowledge that employers convey through on-the-job training programs. These programs allow employees to maintain steady employment while also receiving the training needed to perform a particular function. For adult working learners who seek simultaneous career and education advancement, employer-funded education programs provide a way to achieve both. Many employers, particularly in niche or highly-skilled manufacturing sectors, find value in promoting existing employees.

The emerging demand for technology-related professions over the past two decades has produced a strong supply of candidates seeking employment within this lucrative field. Nevertheless, the demand for qualified technology workers far exceeds current supply, leaving companies scrambling to fill vacancies.⁴² In order to produce qualified candidates to fill these vacancies, companies offering “bootcamps” have emerged to train participants in technical subjects using intensive, short-duration courses. Bootcamps usually last a number of weeks rather than semesters and can produce tangible results. Nine out of ten participants find employment upon completion and average starting salaries range between \$75,000 and \$110,000 per year. Additionally, the average bootcamp cost is one seventh that of a traditional four-year university.⁴³

How Economic Developers Support a Working Learner Ecosystem

The organizing framework for economic developers participating in workforce and working learning takes on the following five aspects:

- Aligning between supply and demand
- Ensuring a robust workforce pipeline
- Engaging the existing workforce
- Ensuring a community effort
- Winning the deal

Alignment Between Supply and Demand

A key issue in workforce development, and one that can impact business retention, expansion, and attraction, is a misalignment between industry demand and labor supply. Working learning programs can be designed specifically to correct these misalignments. In this regard, economic developers can monitor if data is flowing between demand and supply sides. If it is not, they can become data clearing houses, informing training organizations of the needs of the private sector and working to develop curriculum to meet those needs. In other words,

⁴¹ Anthony P. Carnevale, Nicole Smith, Michelle Melton, and Eric W. Price, “*Learning While Earning: The New Normal*,” Georgetown University, McCourt School of Public Policy. Retrieved on September 16, 2016.pdf

⁴² Anya Kamenetz, “*Twelve Weeks to a Six-Figure Job*,” NPR. Retrieved on September 16, 2016.

⁴³ Anya Kamenetz, “*Twelve Weeks to a Six-Figure Job*,” NPR. Retrieved on September 16, 2016.

programs should be rooted in industry demands and in knowledge of discrepancies in workforce skills set within the context of those demands.

In the case study from northeast Ohio, the regional economic development organization, Team N.E.O served this purpose. Serving as the administrative lead for a grant that facilitated targeted training for manufacturing firms, the group connected both sides of the workforce equation, while building a robust working-learner program that allowed firms to expand and meet new demand.

Aligning supply and demand also requires that economic developers keep tabs on which industries are growing and constricting, and understanding where the workforce is in relation to the skills that will be needed. In order to accomplish this, quantitative and qualitative tools can be used to construct as accurate a picture as possible of the landscape of skills and talent. Quantitative data is useful for showing larger trends over time, but at times can fail to highlight more nuanced causes of underlying problems. Qualitative data, on the other hand, can offer a deeper understanding of the root causes of problems and provide the context needed to develop more targeted solutions.

As an example, in Bradenton, Florida, the workforce collective, CareerEdge, addressed skills needs in the healthcare workforce with both quantitative and qualitative data. They determined their focus would be healthcare due to the decline of other major industries in the community, then focused in on the needs of individual hospitals.

Ensuring a Robust Workforce Pipeline

Intimately tied to the alignment of supply and demand is a robust workforce pipeline. This pipeline channels workers from training programs into job opportunities, and should offer multiple on- and off-ramps. Economic developers should routinely survey the local workforce pipeline and identify any weaknesses. Weaknesses may exist as a lack of information about opportunities; for example, helping local students gain access to career and technical education, working-learning programs, and building sufficient awareness of career choices. This mitigates against information asymmetries, and keeps labor supply connected with demand.

In particular, a robust workforce pipeline is tied to alignment with industry demands. Paying special attention to post-secondary institutions to determine whether or not available work-and-learn programs adequately align with local industry needs is essential. If needed, fresh programs can be created in conjunction with the business community to overcome deficiencies. This approach validates resulting outcomes by incorporating stakeholder input in an efficient and effective manner.

In K-12 schools, CTE, soft skills training, and career awareness are desired programs. EDOs assist with working learning models here by facilitating many lower touch activities including: career fairs and job expos, industry tours and job shadowing. In post-secondary institutions this includes looking for programs such as clinical trainings and practicums, co-ops, internships, and apprenticeships. When considering the workforce pipeline outside of traditional educational models, working-learning programs include on-the-job training, credentialing through external programs, and returnships for retired workers. At every juncture as the

workforce is moving through school or their career, there should be an option to obtain some experiential learning or to upskill into a new level.

Case studies from Coachella Valley, CA and Pickens County, SC show the importance of focusing on the workforce pipeline in K-12. Introducing younger students to career opportunities through working learning can improve retention of talent, as well as meet the needs of employers.

Economic developers can also pay special attention to post-secondary institutions in their regions, and assess whether or not program offerings align with the needs the local economy. Metrics to consider when assessing post-secondary institutions include whether or not students leave the area after graduation, and if work-and-learn programs are available to the local workforce. If the metrics do not align with the needs of the local economy, EDOs can help to realign higher educational programs to better serve the business community.

Economic developers can also work to make work-and-learn programs available to the local workforce, convincing businesses of their efficacy, and streamlining them whenever possible. They can work with employers to improve employee training programs, create employer consortia where needed, and encourage companies to invest in upskilling their workforce.

Engaging the Existing Workforce

The existing workforce is the largest piece of the workforce puzzle, and the hardest to reach. Yet this group is also the most essential to business retention and attraction because the growing skills gap in most communities cannot be filled by only students in the pipeline. When concentrating on students, especially students in K-12 programs, programs can face fewer barriers; this population is easy to reach, school systems are often more willing partners than private institutions, and working with students typically delivers good publicity.

Reaching working-learners in the existing workforce is more challenging. Those who are already in the workforce have differing motivations for seeking new training. They could be seeking a new career or simply trying to increase their earnings. Learners in careers are also engaged in more dissipated sources of learning so there is no way to address them from a central organization.

One way to access these workers is through encouragement of employer training. Training employees to take over new responsibilities in their companies addresses the skills gap, while allowing new positions to become available to workers coming out of pipeline programs. Employer training can be supported by economic development organizations via grants or incentives to provide for training on the job, or through partnering with local institutions such as community colleges. This was a key component of success in the northeast Ohio case study, where on-the-job training facilitated manufacturers' ability to meet new orders or increase their product type.

Although high unemployment is a major problem in some areas, low unemployment can also be problematic, especially when working to retain or attract business. Targeting unseen cohorts in the existing workforce can help to mitigate a perceived lack of workers. When working-learning programs are made available to ex-offenders, immigrants, and drop-outs or

those who did not complete high school or college, those groups are moved out of poverty, and businesses are able to fulfill their personnel needs.

Ensuring a Community Effort

In many situations, misconnections in the working-learning ecosystem are community-wide and require a community-wide response. Economic developers can assume community leadership roles, provide direction, and drive policy change. Through strategic planning and visioning, economic developers help communities and businesses prepare roadmaps for the future. With a plan in place, economic developers may take on the role of the administrator, monitoring progress, and when necessary, intervening to course correct.

One aspect of engaging the larger community is to recruit other institutions. Employers, schools, and training entities are essential partners, but other partnerships are also valuable including philanthropies, churches, and unconventional educational institutions. These partners may have close ties to a population that needs to be reached, or to resources that can be used in support of working-learning programs, from funding to event space.

The case study of Tulsa, OK, is an excellent example of an EDO engaging the community in a larger workforce strategy. To address a rising workforce crisis, the Tulsa Regional Chamber engaged in a strategic planning process with the Council for Adult and Experiential Learning. They brought in a range of community partners, from community colleges, to business leaders, to more community focused groups such as the Indian Nations Council of Governments, the Community Service Council and Public Service Company of Oklahoma. The Chamber manages each group's role in ensuring a comprehensive working-learner approach, and administers a dashboard highlighting the partners responsible for certain aspects of implementation.

Winning the Deal

One of the main roles of any economic development professional is to focus on procuring growth. By understanding the needs of the business workforce, economic developers can better gauge where to best devote their time and attention. Through close partnerships with workforce investment boards, community colleges, and primary and secondary schools, economic developers can prepare customized information and incentives for expanding or relocating businesses. This also gives economic developers an opportunity to use these partnerships to market and sell the local workforce.

The importance of planning for economic development opportunities rather than responding to them is a cornerstone of sound economic development practice. Establishing a robust working-learner system ensures that EDOs are not jumpstarting a workforce solution every time a business seeks their assistance. A responsive, reactive approach to economic development does not align growth opportunities with strategic competencies. But, careful planning for workforce needs can; after determining local workforce strengths, identifying strategic and beneficial business growth opportunities, and then working to procure those leads, an integrated working learner system can be the factor that secures an employer's location, expansion and retention.

Case Studies

CareerEdge Funders Collaborative in Bradenton, FL

In the wake of the 2009 recession, the Manatee-Sarasota region of Florida was suffering from an unemployment rate of nearly 13 percent. The region of just over 300,000 people was reeling from the effects of the economic recession, and existing workforce development efforts struggled to keep pace with the scope of the economic downturn. Searching for solutions, community leaders learned of a new collaborative workforce model being promoted by the National Fund for Workforce Solutions (NFWS), a collective of companies, communities and philanthropies working to implement demand driven workforce solutions. The new model, which viewed job seekers, employees, and employers as customers, focused on both supply and demand components of workforce development. NFWS was looking for communities to invest seed funding in that were willing to implement, test, and refine this innovative, dual-focused approach.

Funding is the Impetus for Action

In 2010, the Bradenton Central Community Revitalization Agency (CCRA) and the Gulf Coast Community Foundation applied for and received \$450,000 in seed money from NFWS to develop and implement a workforce collaborative in its region. The region had an advantage in that it was a “Knight City”—one of 26 communities where brothers John S. and James L. Knight owned newspapers, and therefore a permanent beneficiary of the Knight Foundation’s philanthropy. The Knight Foundation had been a supporter of NFWS’s new initiative, and once seed funding was awarded, the Foundation approached local leaders and volunteered to invest an additional \$1 million toward the workforce collaborative if a commitment from community institutions could be secured.

The CCRA agreed and contributed \$200,000 toward the effort, followed shortly thereafter by another \$200,000 pledged by the Bradenton Downtown Development Authority. With these funds in place, the Knight Foundation became additional contributors to the local effort. Seeing this well-capitalized, community-wide effort, the Gulf Coast Community Foundation and Bank of America also agreed to become initial funders. In 2010, with just under \$2 million raised, the Manatee-Sarasota Workforce Funders Collaborative was launched.

CareerEdge is Launched

The Manatee-Sarasota Workforce Funders Collaborative, today known as CareerEdge Funders Collaborative, or CareerEdge, began by focusing on achieving two tangible goals: helping low-skill/low-wage workers advance into higher-skill/higher-wage careers, and providing employers with the workers needed to grow their businesses. Different from publicly funded workforce boards, which are mandated to spend resources mainly assisting job-seekers, CareerEdge’s resources of private, unrestricted capital afford it the ability to work directly with employers. Far from replacing the local workforce board, CareerEdge works closely with it to serve the needs of employers that the workforce board could not.

The workforce challenges faced by the Manatee-Sarasota region predominantly affected adult workers. Consequently, CareerEdge developed a program to mutually benefit adult workers and employers alike. In the aftermath of the recession, which caused significant layoffs in the construction and manufacturing industries, CareerEdge decided to focus its efforts on the

healthcare industry as it remained one of the few growing local business sectors. At the outset, CareerEdge partnered with area hospitals to develop a creative way to overcome the existing nursing shortage.

In an attempt to upskill existing lower-wage, entry level hospital employees, CareerEdge awarded hospitals grants to incentivize them to invest in their workforces. Hospitals embraced the opportunity to leverage their resources with CareerEdge grant funding, and as part of their eligibility requirement, began developing and offering English and GED classes to lower-wage employees. This effort afforded well-performing, entry-level hospital employees the opportunity to advance their careers in nursing, while simultaneously freeing up their previous positions for new entrants into the workforce.

The funding hospitals received from CareerEdge was awarded conditionally, requiring adherence to prescribed metrics that were measured by Capital Analytics, a third party evaluator. These metrics included:

- Return on investment
- Wage increases
- Degrees completed
- Retention levels
- Promotions earned
- Turnover rate of trained employees versus non-trained employees.

Initially skeptical about how grant recipients would react to the stringent reporting requirements, CareerEdge Executive Director Mireya Eavey explains, “I found that employers receiving grant awards had no complaints about the reporting requirements,” she said, “because they found value in measuring the return on investment from the matching funds they contributed to the program, as well. Because CareerEdge and grant recipients both have skin in the game, the reporting requirements offered valuable information to all parties.”

Economic Development Organizations Benefit

CareerEdge's success has been attributable in part to relationships with regional economic development organizations. Although not funders of CareerEdge, local EDOs have worked in partnership with the organization since its beginning in 2009. For example, in 2012, the Economic Development Corporation of Sarasota connected CareerEdge with area employers who requested that a manufacturing skills gap analysis be conducted for the region. The results of the study indicated that the region was expected to have a deficit of 2,500 skilled manufacturing jobs by 2016. CareerEdge addressed this shortfall by issuing requests for proposals to regional manufacturers for grant funding allocations in support of workforce training efforts. Far from a hand-out, CareerEdge required manufacturers to articulate their funding needs, as well as their own financial commitment to the cause. To date, 68 percent of the funding awarded to worker training programs has come directly from the financial commitments of local employers.

Upon receiving the findings of the 2012 manufacturing skills gap analysis, CareerEdge also saw the need to meet with and persuade the Sarasota County Technical College to develop training classes to equip machinists and welders with high-tech knowledge. With

CareerEdge serving as a facilitator, these new classes were developed in collaboration with local employers, who provided industry-specific insight to school administrators.

Once in effect, the results of these classes showcased how a proactive, demand-driven approach to workforce development benefitted both local employers and workers. From 2011-2014, the number of individuals participating in career training increased over 80 percent. This eased labor-shortage concerns while also expanding employment by opening up entry-level positions to new workforce entrants. Since August 2013 CareerEdge has provided over \$320,000 in manufacturing grants to seven regional manufacturers, thus preventing the predicted workforce skills deficit. In fact, according to Eavey, “Due to CareerEdge’s targeted interventions, employers have reported a noticeable increase in employee retention and promotion potential.”

Investment and Results

CareerEdge’s success is attributable to its broad network of community support. To date, a dozen private and three public entities have contributed over \$5.4 million to fund its operations. They include:

- Bank of America
- Charles and Margery Barancik Foundation
- Gulf Coast Community Foundation
- John S. and James L. Knight Foundation
- Jane’s Trust
- Jobs for the Future
- JP Morgan Chase & Co.
- National Fund for Workforce Solutions
- Microsoft
- United Way Suncoast
- The William H. Donner Foundation, Inc.
- Scheidel Foundation

These funds are leveraged by over \$3 million in investment from private sector grant matches that fund workforce training programs. Proving that its financial model is stable, CareerEdge now receives 95 percent of its funding from private sources. This, coupled with the diversity of revenue streams, helps to ensure CareerEdge will be sustainable for years to come.

The success of CareerEdge in retooling and retraining the Manatee-Sarasota workforce can be seen in data collected from the local workforce. To date, CareerEdge clients have received over 2,000 raises, average hourly pay increases of \$2.42, over 540 promotions, and \$15,200 in bonuses. Additionally, over 3,100 people have received training, 1,200 new jobs have been created, and over \$23 million in wage increases have been added to the local economy.

Scholar Technician® Program in Pickens County, SC

Located within a rural part of South Carolina's Upstate Region, Pickens County has a population of 120,000 and relies heavily upon manufacturing to support its economy. In recent decades, the county has successfully diversified from a dependency on the textile industry to one that is more varied. The local economy is now comprised of companies that produce everything from fire suppression devices and mobile kitchens for the military, to high-tech medical devices, and customized machines. Although not seamless, the transition has afforded the county's workforce the opportunity to remain and retool.

Building the Pipeline

Along with the emergence and growth of new manufacturing businesses, several years ago Pickens County officials recognized a growing issue—the supply of skilled workers was not keeping pace with demand. To combat this, the economic development organization for the county, Alliance Pickens, designed a program to align educational attainment with skills development. Officially named 'Scholar Technician®', the program emerged as a collaborative effort among educators, employers, government, and economic developers to close the skills gap and encourage and excite high school students about the prospect of pursuing careers in science, technology, engineering, and mathematics (STEM).

Begun by Alliance Pickens in 2012, the "Scholar Technician®" program builds on the "scholar athlete" model by encouraging strong academic performance, along with extra-curricular excellence. Of particular note is the success that school administrators and teachers have had in overturning long-held perceptions that associate tech jobs with low achievement. Teachers in Pickens County begin teaching STEM concepts to their students as early as kindergarten. Once they reach high school, vocationally inclined students are identified by teachers and Alliance Pickens staff members, who maintain ongoing relationships with the students.

High Standards Equal Qualified Workers

These relationships begin each fall, when Alliance Pickens sends staff members to county high schools to develop one-on-one relationships with incoming sophomores. After gauging students' interest in and aptitude for work in technical professions, their academic performance is monitored until the spring, at which time Alliance Pickens determines whether or not to admit students into the Scholar Technician® program. If selected, students are afforded an opportunity to pursue hands-on training at the school district's Career & Technical Center. Gaining admittance into the 'Scholar Technician®' program is rigorous and requires a strong GPA; students compete to gain admittance, which has dramatically reduced the stigma associated with technical careers.

In addition to blending traditional and vocational education, the Scholar Technician® program fosters close relationships between the Pickens County School District and the business community. With technical skills in high demand, many area employers seek out students enrolled in the Scholar Technician® program and offer to offset their higher education costs if they agree to work for them part-time during college. This type of long-term potential

benefit to area students encourages educators to stay abreast of emerging trends affecting local industry and to incorporate relevant information back into their lesson plans at the Career & Technical Center.

Mutually Beneficial Partnerships

The importance of the partnership between the business and educational communities cannot be overstated. It is now common for managers in the local workforce to teach workshops and serve as mentors to students in the program. Furthermore, teachers now have the option of spending time on-site at a variety of local businesses, where they learn more about product offerings and the skills employers are looking for when they hire. These experiences translate back into improved lesson plans and more relevant instruction in the classroom.

The Scholar Technician® program, while led by Alliance Pickens, is funded by all of its partners. Important to note, however, is the fact that no additional financial resources were needed to fund the program; rather, existing budgets and staff hours were reallocated to make it possible. According to Alliance Pickens Executive Director, Ray Farley, “The collaborative approach to the Scholar Technicians® program is the key to its success. Educators, business owners, and economic developers all work together to benefit the future of Pickens County students.”

Coachella Valley Economic Partnership in Coachella Valley, CA

The Coachella Valley Economic Partnership (CVEP) was established in 1994 to drive business and workforce development initiatives in the Coachella Valley region of California. The Coachella Valley region spans nine cities in eastern Riverside County in California and is home to approximately 450,000 residents. Until 2005, CVEP's primary services were centered on traditional economic development such as business retention, expansion, and attraction. Now, workforce development is viewed as integral to economic development goals in the Coachella Valley and integrated into the organization's economic development planning.

“Education is Economic Development”

According to Sheila Thornton, CVEP's vice president for workforce excellence, business concerns over the lack of marketable skills and education attainment among local workers prompted a more intensive approach to workforce development.⁴⁴ In comparison to the nation and similar communities, Coachella Valley has more adults without a high school diploma and fewer adults (approximately 25 percent) with a bachelor's degree. This lack of skills and lower education attainment resulted in economic development challenges: a business survey of major companies indicated 80 percent of their employee recruitment efforts were focused on attracting workers from outside the Coachella Valley.

As a result, CVEP convened with local partners in 2005 to launch the Career Pathways Initiative. The goal of this initiative was to increase Coachella Valley's intellectual capital and workforce capacity which, in turn, would attract higher wage, better skilled jobs. Soon, CVEP adapted the mantra “education is economic development” and worked to better integrate the region's education system into its economic development planning by collaborating with regional stakeholders.

Early partners of the Career Pathways Initiative included the James Irvine Foundation and the Riverside County Economic Development Agency/Workforce Investment Board (WIB). Over ten years, CVEP's collaborative efforts have evolved into a more comprehensive regional pipeline strategy that uses employer demand to facilitate industry education and collaboration. Currently over 400 partners—including the county office of education, the county workforce development system, industry leaders, higher education institutions, and three K-12 school districts—have come together to align the region's education, workforce, and economic development efforts.

This “education-to-career” pipeline strategy addresses five key needs of the region:

- A top quality workforce to serve a growing population in high wage industries
- Lower high school dropout rates
- Increased college readiness, enrollment, and completion rates
- More opportunities for students from disadvantaged backgrounds to pursue college and careers
- Qualified local students to fill the workforce pipeline

⁴⁴ Coachella Valley Economic Partnership, “*Unlocking Potential*.” Retrieved on September 16, 2016.

This pipeline strategy has also served as a springboard for more education enrichment programs and opportunities to provide career readiness services to Coachella Valley students. For example, in 2006 CVEP was designated one of three national best-practices Next Generation Learning (NGL) communities by the Ford Motor Company fund.⁴⁵ As a Next Generation Learning (NGL) community, CVEP was charged with developing a master plan to transform the local education system and ensure greater college, career, and life preparedness post-graduation.

Planning a 21ST Century Workforce

In 2012, CVEP developed a five-year master plan, the Coachella Valley Regional Plan for College and Career Readiness, with input from 75 local stakeholders. The plan is structured around the three strands of Ford's Next Generation Learning that target transformation of: teaching and learning, secondary schools, and business and civic engagement. The Coachella Valley is also creating and piloting a fourth strand on college and career readiness. Each strand as well as some of CVEP's related goals are discussed in further detail below.

The Transforming Teaching and Learning strand involves the development of teaching strategies that impart the essential knowledge and skills for student college and career readiness. This includes professional development for the teachers, counselors and administrators in career academies. The professional development needs of each academy will vary based on needs assessment of academy-related competencies. Also, CVEP has determined stronger teaching and learning strategies require rigorous and relevant curriculum, differential instruction that integrates work-based learning, and the assessment of the college and career readiness of students.

Under the Transforming the Secondary School Experience strand, CVEP aims to have at least a third of students enroll in a career or interest-themed academy, pathway or similar programs. CVEP will then work with the school districts to phase in high-quality academies informed by economic development targets. This integration will be supported by the alignment of available resources and tracked using personalized graduation plans for pathways and career-and-interest themed academy students.

Transformation through Business and Civic Engagement requires engagement, collaboration, planning, and implementation from the relevant parties—such as business, education and civic leaders and parents. For example, the CVEP Workforce Excellence Oversight Committee worked with stakeholders to complete and launch a master plan for promoting sustainable workforce competitiveness and community prosperity. CVEP has also developed industry councils, implemented parent engagement strategies and marketing outreach to gather attention and ensure the proportional representation by industry, education, workforce, civic partners, parents, and students.

Finally, the College and Career Readiness strand relates to building aspirations, support systems, and a regional commitment to post-graduation success. In order to increase graduation and college enrollment rates, CVEP works with regional partners to make students

⁴⁵ Fordngl.org, "Ford Next Generation Learning." Retrieved on September 16, 2016.

aware of and better understand post-secondary admission and workplace needs. The organization also helps to drive the regional commitment to post-graduation success by executing campaigns that center on college and career readiness, developing a sustainable scholarship program and implementing a job placement program.

Results

As of 2015, the Career Pathways Initiative has produced significant results. Over \$1.3 million in scholarships have been awarded to 281 college bound-students in the Coachella Valley, and over 7,200 students have participated in pipeline or career academies connected with local businesses and employers, explored careers, and participated in career conferences and competitions. Additionally, over 6,000 students have gained direct work experience facilitated by the Coachella Valley Economic Partnership and local businesses. The number of business professionals engaged in pipeline and career academy programming has exceeded 425, and most impactful of all, over 39,000 student impact hours were provided by local employers and professionals.

Workforce Analysis and Alignment Strategy in Tulsa, OK

As the 2007-09 economic recession entered into recovery, the greater Tulsa, Oklahoma, region seemed poised for take-off. Economic activity was picking up, job growth forecasts were high and key regional industrial clusters were projecting high growth rates. Yet, recovery was not consistent across the region. Some parts of the community possessed high employment rates, while others did not. A disconnect between workforce supply and demand began to appear. Local business leaders complained of low educational attainment levels and mismatched skills. Clearly, something needed to be done.

The Tulsa Regional Chamber of Commerce, an economic development organization serving the region for more than a century, was the natural leader to address this issue. The Chamber began by developing a Workforce and Education Alignment Strategy in early 2014. The strategy was devised as a comprehensive regional workforce development framework that encompassed traditional means of upskilling workers, as well as innovative models like working-and-learning programs.

The Tulsa region benefited from an existing, well-developed workforce training system. There was no lack of technical education programs or quality colleges and universities. The local corporate community was engaged in efforts to develop the local workforce. Ultimately, it was determined that existing strengths needed to be reinforced and integrated, and weaknesses and gaps, where they existed, needed to be bridged.

To develop a Workforce and Education Alignment Strategy, the Tulsa Regional Chamber sought consultation from the Council for Adult and Experiential Learning (CAEL), a leading national non-profit organization specializing in adult learning workforce development. It also engaged Avalanche Consulting, an Austin-based firm specializing in economic analyses and development strategies, to conduct a 24-week study. The Chamber leveraged an Economic Development Administration (EDA) Technical Assistance Grant to conduct its workforce analysis. Additionally, it partnered with the following organizations to fund the project:

- Community Service Council:
 - An organization focusing on community planning and local resource mobilization;
- AEP Public Service Company of Oklahoma:
 - A major regional utility that has significant participation in regional economic development activities;
- George Kaiser Family Foundation:
 - a major economic development organization in the region that pays special attention on breaking inter-generational poverty cycles for families and children;
- Indian Nations Council of Governments:
 - An association of local tribal councils that acts as a regional planning organization, and offers assistance in land use, transportation, community and economic development, environmental quality, public safety, and services for older adults.

The Workforce and Education Alignment Strategy was crafted through a collaborative process that combined the expertise and competencies of all its collaborators.

Process

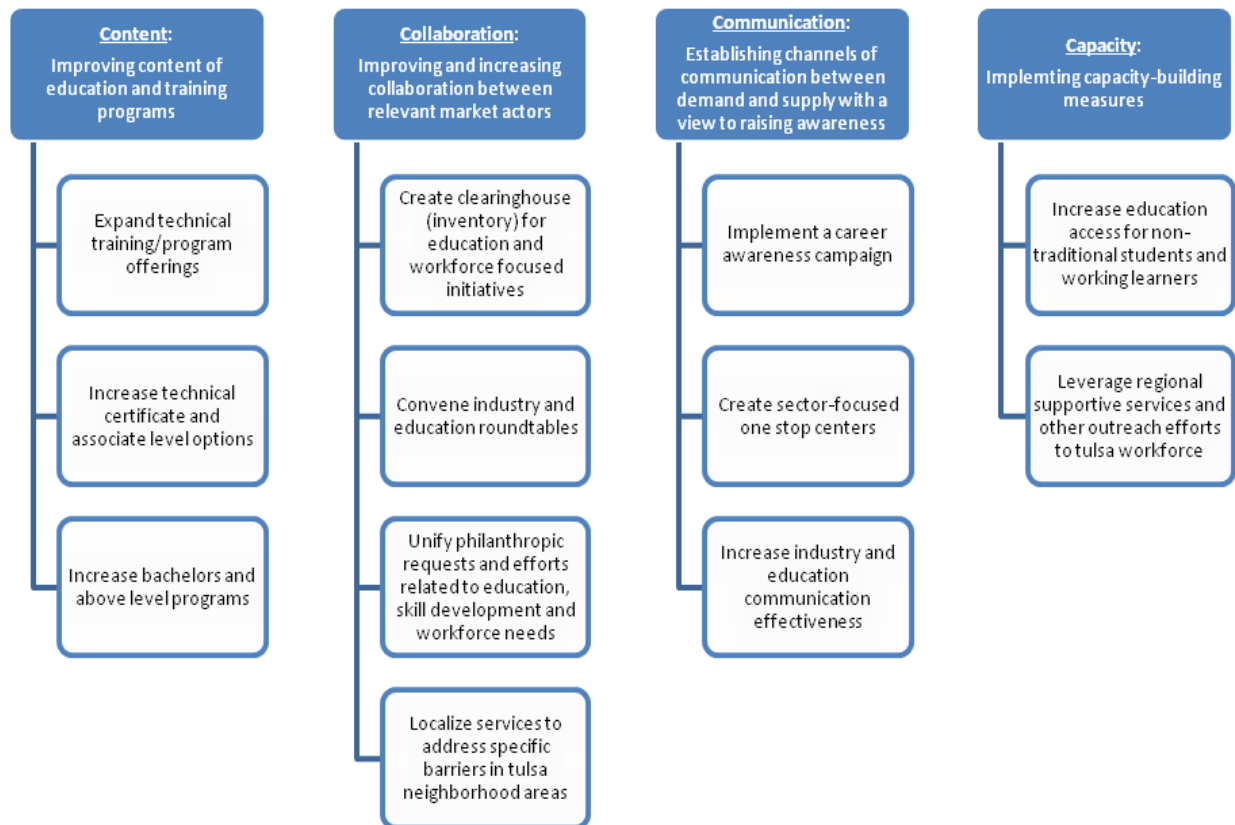
In February of 2014, the Tulsa Regional Chamber and its partnering organizations kicked-off a research and analysis process that took six months to complete. The project was conducted in three parts. Phase I concentrated on understanding the economic and demographic landscape, including analysis of the labor market and input from public meetings. The analysis covered the seven-county Tulsa MSA, but concentrated a majority of its focus on the eastern, western, and northern neighborhoods of Tulsa. Home to many underserved populations, these neighborhoods seemed ideal candidates for needs and employment assessments. Additional data was gathered from meetings with workforce, education, business, industry, economic development, and city leaders. During this process, the research team spoke with more than 50 organizations, and received input from more than 100 individuals.

Phase II consisted of inventorying the assets of the education and training landscape. The research team collected and analyzed both qualitative and quantitative data from several primary and secondary sources. This included labor market information, data from the American Community Survey, information on career and technical education programs throughout the MSA, and higher education and workforce-focused institutions in the region. By June, the team had conducted a labor market analysis, mapped the economic and demographic landscape, profiled target industries down to the regional and neighborhood levels, and completed an inventory of educational assets. Once its research and analyses were complete, the team developed several education/workforce alignment recommendations.

Then, in July, Phase III began with the research team convening a Strategy Workshop. The team invited a diverse array of stakeholders and market actors to validate its recommendations. Afterward, a list of 12 recommendations was produced, along with a corresponding implementation action plan. The final recommendations, together with the action plan, comprised the Workforce and Education Alignment Strategy.

Recommendations

The final recommendations were categorized into four thematic categories (Content, Collaboration, Communication, and Capacity) detailed below:



The “Capacity” category aimed to “increase education access for non-traditional students and working learners,” and included recommendations to:

- Expand Prior Learning Assessment offerings
 - Review, adjust, and implement the policy on campuses across the Tulsa region
 - Conduct marketing focused on opportunity for students to potentially receive college credit for prior learning
- Increase availability of online programs and distance learning
 - Determine areas of focus, current partners, initiatives, and organizational goals, as well as funding models
- Create a database or website holding the information
- Enhance career advising and other career services for non-traditional students
 - Define available career pathways with training and education programs
 - Aim to tell the story of jobs in Tulsa effectively
- Improve articulation agreements between High Schools, Technical Schools and other Higher Education Institutions

- Focus on lifelong learning in Tulsa Young Professionals Network, a network of young professionals in the Tulsa region which focuses on attracting and retaining young talent to the region, and developing its leadership potential
 - Utilize network to highlight the value of a degree and post-secondary credentials
 - Leverage this group to help with messaging and marketing for degree attainment and continued learning in Tulsa region

The “Capacity” category also aimed to “leverage regional supportive services and other outreach efforts to benefit the Tulsa workforce,” and included recommendations that support their efforts to engage working-learners such as:

- Invest in work and education-based transportation program
 - Create a scalability plan for pilot transportation programs in Tulsa
 - Track utilization and return on investment for pilot programs
- Highlight increased employer investment in ex-offender workforce pipeline
 - Support “Ban the Box” legislation
 - Tailor transition training programs to serve this population

The “Capacity” recommendations concerning non-traditional students and working learners were so important to the overall strategy that the Tulsa Regional Chamber accorded them “high priority status.”

Similarly, recommendations emphasizing localized, neighborhood-specific services, such as childcare services and integration of ex-offenders, provided support to working-learners. In Tulsa’s case, they defined working-learners as typically people over 25 years of age who are returning to school after periods of full-time employment. Often they have a diverse array of commitments and obligations to balance including work, education, and family. Support services can help remove barriers to education and employment in the short term, and full time employment and economic well-being in the long term.

Non-Traditional Students and Working Learners

One of the action items in the “Capacity” category was to expand the use of Prior Learning Assessment (PLA) practices in higher education and workforce systems. Prior Learning Assessments are a means of evaluating college-level knowledge and skills obtained outside of college, such as through workplace training, professional certifications, independent study, and volunteer service. PLAs are used by colleges to award college credit. Thus, adult working learners and other non-traditional students do not have to complete or pay for college credit to re-learn things they already know. Since PLAs result in earned credit hours, they help reduce the time required to complete degrees or certifications.

According to Tulsa Chamber of Commerce Executive Director of Mosaic and Workforce, Denise Reid, “So much of what is espoused is a four-year degree, but there are lots of opportunities with a high-value credential. Many students who can do these high-value jobs

don't know about them. The challenge is to get more diverse, underserved populations into a stackable credential model that gets them into higher-wage earnings.”

The Strategy acknowledged the reality of pressing obligations non-traditional students and working learners may face. As a means of circumventing these impediments, it recommended enrolment in online and distance learning programs. Additionally, the plan emphasized the need for an online soft skills and work readiness training program to administer at high schools, outreach centers, and adult learning centers. Emphasis was placed on supportive services and outreach efforts to residents, including regional work-based and education-based transportation. For example, the plan recommended strengthening and expanding a vanpooling program piloted by the Indian Nations Council of Governments.

Finally, the Workforce and Education Alignment Strategy advised incorporating lifelong learning messaging into Tulsa Young Professionals Network, a regional program that engages with young working adults and facilitates advanced degree completion. The strategy stressed offering professional development workshops that highlight the value of degree continuation through the Network. In addition, it stressed creating marketing campaigns which emphasize degree completion and lifelong learning. By emphasizing degree completion, and supporting working learners, the strategy hoped to reintroduce former students to college and university life. Similarly, in emphasizing lifelong learning, the strategy aimed at convincing people who were already part of the workforce to return to educational institutions to improve their skills set.

Advance NEO in Cleveland, OH

Sometimes, the impetus for implementing working-learning programs comes from outside sources, especially when grant funding is involved. This has been the case in Northeastern Ohio. In 2013, Team Northeast Ohio (Team NEO) a regional economic development organization, partnered with the Manufacturing Advocacy & Growth Network (MAGNET) an Ohio MEP Affiliate, WIRE-NET, a manufacturing focused economic development group, and Medina County Workforce to apply for and win one of 10 “Make it in America” grants for \$1,796,867. Their focus with this project, dubbed Advance NEO, was to provide specialized assistance, including workforce training, to as many as 25 firms in three advanced manufacturing clusters in the area.

The grant program was funded jointly by the Department of Commerce’s Economic Development Administration, the National Institute of Standards and Technology Manufacturing Extension Partnerships (NIST-MEP), the Department of Labor’s Employment and Training Administration (DOL-ETA), and the Delta Regional Authority (DRA). Funds from this program were designed to facilitate U.S. companies keeping, expanding, or re-shoring their manufacturing operations in America, as well as to entice foreign companies to establish here. One focus, which Advance NEO targeted, was training and employment activities.

Structuring the Grant

The Advance NEO grant was designed to provide a coordinated set of tools to improve retention, expansion, reshoring, and FDI prospects to companies in the biomedical, transportation, or advanced energy sectors. These tools, listed below, integrate considerations from all sponsoring agencies, which show how integral workforce training (and hence, working-learning) is to an overall sector-based strategy.

- I. Assess critical manufacturing needs and capabilities within targeted sector supply chains (EDA funding)
- II. Determine gaps in manufacturing value chains for OEMs and large industry partners (NIST/EDA)
- III. Connect core-city manufacturers to resources and opportunities to close the gaps (EDA funding)
- IV. Scout suppliers and offer services to small firms for supply chain expansion (NIST-MEP)
- V. Identify workforce needs in the industry clusters, as well as recruit and train talent (ETA) from an advanced (non-entry-level) postsecondary skill level.
- VI. Provide better access to career pathways for the strong regional concentration of engineers (chemical, mechanical, and process) as well as technicians and technologists from targeted sectors (ETA)

In the three years that the grant has been implemented, 41 companies have been assisted, and much of the effort has been directed toward workforce development, with a strong emphasis on working-learning tactics. Paul Boulter, Vice President of Industry and Innovation at Team NEO explains that the grant facilitated a variety of ways of engaging working learners, including fast-track training, internships, and structured on-the-job training. These efforts

immediately contributed to the goals of client company retention and expansion by providing new skills for areas that companies wanted to expand into, or that they needed to fulfill existing contracts. On a longer term basis, the grant helped to establish a workforce pipeline to these targeted industries.

Different Teams in Different Roles

In order to capitalize on their strengths and focuses, the grant partners took on different roles in four teams. Team NEO led the Steering Team, which conducted the outreach and intake of potential companies. Outreach was conducted through several streams, from reaching out to companies that seemed like a good fit, to advertising at partner organizations' events. The minimum criterion for engagement in the program was that the company be in a core sector, work with advanced materials, be located in the targeted MSA with local employees, and be willing to work with the team. Additional merit was earned if the company was engaged in international or reshoring work.

After an interview and presenting the case for assistance, if a company was chosen to proceed, then they would move on to the Assessment Team, which was comprised of WIRE-Net and MAGNET. The Assessment Team served as the relationship manager, and put together the scope of the project that the client company would participate in. This included identifying responsibilities, and determining the costs to the company. Although the grant covered most of the cost, a percentage was also covered by the company in order to solidify investment and engagement. Additionally, the scope needed to fall within the objectives of the grant, and, when possible, satisfy the requirements of other programs like the Manufacturing Extension Partnership.

Once a plan was worked out with the Assessment Team, then the Delivery Team would work with the company to carry it out. The Workforce Delivery Team, led by Medina County Workforce and its Workforce Investment Board was comprised of MAGNET and project-specific partners, which included a range of higher education partners, including Case Western Reserve University, Lorain County Community College, Stark State, University of Akron, and Cuyahoga Community College. The efforts of the Delivery Team were monitored by the Steering Team, which tracked metrics, and identified potential improvements.

Workforce Development via Working-Learning Takes Center Stage

Although addressing workforce concerns was one of several goals for this project, it became a major focus. Of the 41 projects undertaken during the Advance NEO grant, 50 percent were related to workforce. The workforce efforts were certainly helped along by the already strong sense of cooperation between the grant partners. Danita Srodek, Grant Program Coordinator, Medina County Workforce Development Center explains, "Many economic development corporations are facilitating connections between companies and training opportunities through schools, colleges, and universities. Economic development organizations are recognizing the importance of this approach to growing and attracting businesses."

The workforce services provided far exceeded the proposed numbers in the original grant. Following is a summary of the numbers served in each category:

- 39 unemployed workers were trained, and certified in machining technologies (CNC) and welding
- Incumbent worker training was provided to 13 manufacturers, impacting 197 workers
- On-the-job training was provided to 1 manufacturer, impacting 9 participants
- Engineering and technical internships with 23 manufacturers with 42 participants from 15 colleges or universities

Initial company surveys indicate a significant impact resulting from this project. The training provided current workers the skills needed to remain and advance on the job and helped companies to maintain current contracts and seek new customers. Companies experienced a better pool of candidates to fill vacancies and new hires were better prepared for on the job training. The internships connected local students attending out-of-state schools with regional companies as well as out-of-state students attending local colleges.

Bill Hanigan, Director, Medina County Workforce explained, “Not only does this address the ‘brain drain’ area of concern by providing students regional opportunities in their field of study, but there has been a recent change by many of the employers to engage the interns and co-ops in current projects rather than using them as fill-ins or giving them routine tasks. This engages the students and provides real value for the companies.”

Glossary

Apprenticeship

A combination of on-the-job training and related instruction in which workers learn the practical and theoretical aspects of a highly skilled occupation.

www.dol.gov/general/topic/training/apprenticeship

Career Fair / Career Expo / Job Fair

An event held for employers and recruiters to meet with potential job candidates. Industry Representatives set up exhibition booths, where students and job seekers can find information about different career fields, training opportunities, and jobs currently available.

<http://gradsoflife.org/wp-content/uploads/2015/11/2015-11-12-BRT-Work-and-Learn.pdf>

Clinical Training / Practicum

A central form of instruction and learning in which a profession socializes its students to perform the role of practitioner.

<http://fielddeducator.simmons.edu/article/are-students-rights-violated-in-field-practicums-a-review-of-the-fair-labor-standards-act-in-social-work-field-education/>

Cooperative Education / Co-Op

A program that alternates periods of academic study with periods of work experience in appropriate fields of business, industry, government, social services, and professions.

www.cafce.ca/coop-defined.html

Externship

Externships typically are training programs offered by educational institutions and private businesses that give students brief practical experiences in their field of study.

www.forbes.com/sites/jacquelynsmith/2013/05/30/externships-what-they-are-and-why-theyre-important/#1b9f4f1529b9

Industry Tour

Companies offer guided tours of their facilities to let students, parents, and the general public witness firsthand the day-to-day operations of the business.

<http://gradsoflife.org/wp-content/uploads/2015/11/2015-11-12-BRT-Work-and-Learn.pdf>

Internship

An opportunity to integrate career related experience into an education by participating in planned, supervised work.

<http://polisci.osu.edu/sites/polisci.osu.edu/files/What%20is%20an%20Internship.pdf>

Job Shadowing

A work experience option where an interested party learns about a job by shadowing a competent worker. The job shadowing work experience is a temporary, unpaid exposure to the workplace in an occupational area of interest to the interested party.

https://www.experience.com/alumnus/article?channel_id=experience&source_page=home&article_id=article_1196784952835

Massive Open Online Courses

A free web-based *distance learning* program that is designed for the participation of large numbers of geographically dispersed people.

<http://whatis.techtarget.com/definition/massively-open-online-course-MOOC>

Mentorship

A face-to-face, long-term relationship between a supervisor and a novice that fosters the mentee's professional development.

http://ehrweb.aaas.org/sciMentoring/Mentor_Definitions_Packard.pdf

On-the-Job Training

Training by an employer that is provided to a paid participant while engaged in productive work in a job that provides knowledge or skills to performance that job.

www.nccommerce.com/LinkClick.aspx?fileticket=5ha5dW4wIWU%3D&tabid=3697&mid=8957

Pre-Apprenticeship

Programs that are designed to prepare individuals to enter and succeed in Registered Apprenticeship programs. These programs have a documented partnership with at least one Registered Apprenticeship program sponsor and together, they expand the participant's career pathway opportunities with industry-based training coupled with classroom instruction.

www.doleta.gov/OA/preapprentice.cfm

Registered Apprenticeship

A unique, flexible training system that combines job related technical instruction with structured on-the-job learning experiences. Registered Apprenticeship is a leader in preparing American workers to compete in a global 21st Century economy because the system keeps pace with advancing technologies and innovations in human resource development.

www.doleta.gov/oa/apprenticeship.cfm

Returnship

Short-term, non-binding arrangements that provide re-entry opportunities for people seeking to return to work after an extended period out of the workforce.

<https://hbr.org/2012/11/the-40-year-old-intern/>

Tools for Implementing Working Learner Programs

Background Reading

Excerpts from **Jane Daly, Job Fair Toolkit: A Practical Guide and Best Practices for Organizing, Conducting, and Attending Job Fairs, (Washington, DC: U.S. Agency for International Development), 2007**, pp. 1-39.

This document provides an overview of the purpose and function of a job fair. It succinctly, yet thoroughly explains what a job fair is, how one should be organized, and how it should be used by employers and job seekers, alike.

Excerpts from **Leslie Slaughter and Joe Morgan, Work-Based Learning Manual, (Frankfurt, KY: Kentucky Office of Career and Technical Education), 2015**, pp. 4-1 – 4-11, “Shadowing.”

This manual provides an overview work-based learning applications. Specifically, it details the rationale for job shadowing, how to implement a job shadowing program, and relevant legal issues.

Excerpts from **Kelly Guilbeau and Arlene Holmes, Alumni Mentor’s Guide to Externships, (Grinnell, IA: Grinnell College), 2013**, pp. 1-10.

This guide offers an overview of the responsibilities of an extern, explains the role of an alumni mentor, and offers a template for how to evaluate an externship.

Excerpts from **Linda O’Connor and Patrick Reardon, How to Implement A Pre-Apprenticeship Program, (Columbus, OH: Ohio Department of Education), 2015**, pp. 1-9.

This how-to manual provides step-by-step instruction for how to develop a pre-apprentice program, from market research and industry outreach, to plan implementation and ongoing evaluation.

Excerpts from **Claire Schooley, Drive Employee Talent Development Through Business Mentoring Programs, (Cambridge, MA: Forrester Research, Inc.), 2010**, pp. 1-20.

This training guide explores the benefits of career mentoring, examines technology that supports mentoring, and explains the process of establishing a mentorship program.

Excerpts from **Merle Ryan and Emily Gerrett, Practicum Handbook 2014-2015: Designed to help you plan and complete a supervised practicum, (Amherst, MA: University of Massachusetts), 2015**, pp. 6-12.

This handbook details the process for setting up a practicum, sets expectations, and identifies common problems.

Excerpts from **Carol Fishman Cohen, The 40-Year-Old Intern, (Boston, MA: Harvard Business Review), 2012**, pp. 1-5.

This article explains the benefits of ‘returnships’ – internship-like programs for professionals who have taken time off and subsequently returned to the workforce. The article also gives advice for how to structure a returnship program.

Excerpts from **Aerospace Joint Apprenticeship Committee, On the Job Training Best Practices, (Olympia, WA: Workforce Training and Education Coordinating Board), 2014**, pp. 8-51.

This guide details best-practices for on-the-job training programs. Additionally, it lists steps to create and implement an on-the-job training program, and explores the roles of companies in the process.

Excerpts from **Bridge: Connecting Academia, Business, and Community, Rhode Island Employer Guide to Structuring a Successful Internship Program, (Smithfield, RI: Bryant University), 2014** pp. 3-12.

This guide offers step-by-step instructions for how to develop a successful internship program, and offers insight into compensation, insurance, talent retention matters.

Excerpts from **Center for Career Development, Building a Successful Co-Op Program, (Columbus, GA: Columbus State University), 2014**, pp. 3-5.

This how-to guide uses the Columbus State University Co-Op Education Program as an example to explain how best to start and operate a Cooperative Education Program.

Excerpts from **Apprenticeship Toolkit, A Quick-Start Toolkit to Building Registered Apprenticeship Programs, (Washington, DC: U.S. Department of Labor) 2014**, pp. 1-17.

This manual explains the process of how a registered apprenticeship is structured, what its benefits are, and the steps required to register an apprenticeship as part of the National Registered Apprenticeship Network.

Excerpts from **Kimberly Denley, Marissa McCluney, Lauren Minisci, and Ignacio Ros, Employer’s Playbook for Building an Apprenticeship Program, (Washington, DC: Manufacturing Institute), 2015** pp. 1-115.

This playbook explains how to develop, implement, and evaluate an apprenticeship program. It provides detailed information about each stage of program development, and offers end-of-chapter toolkits that provide supplemental information.