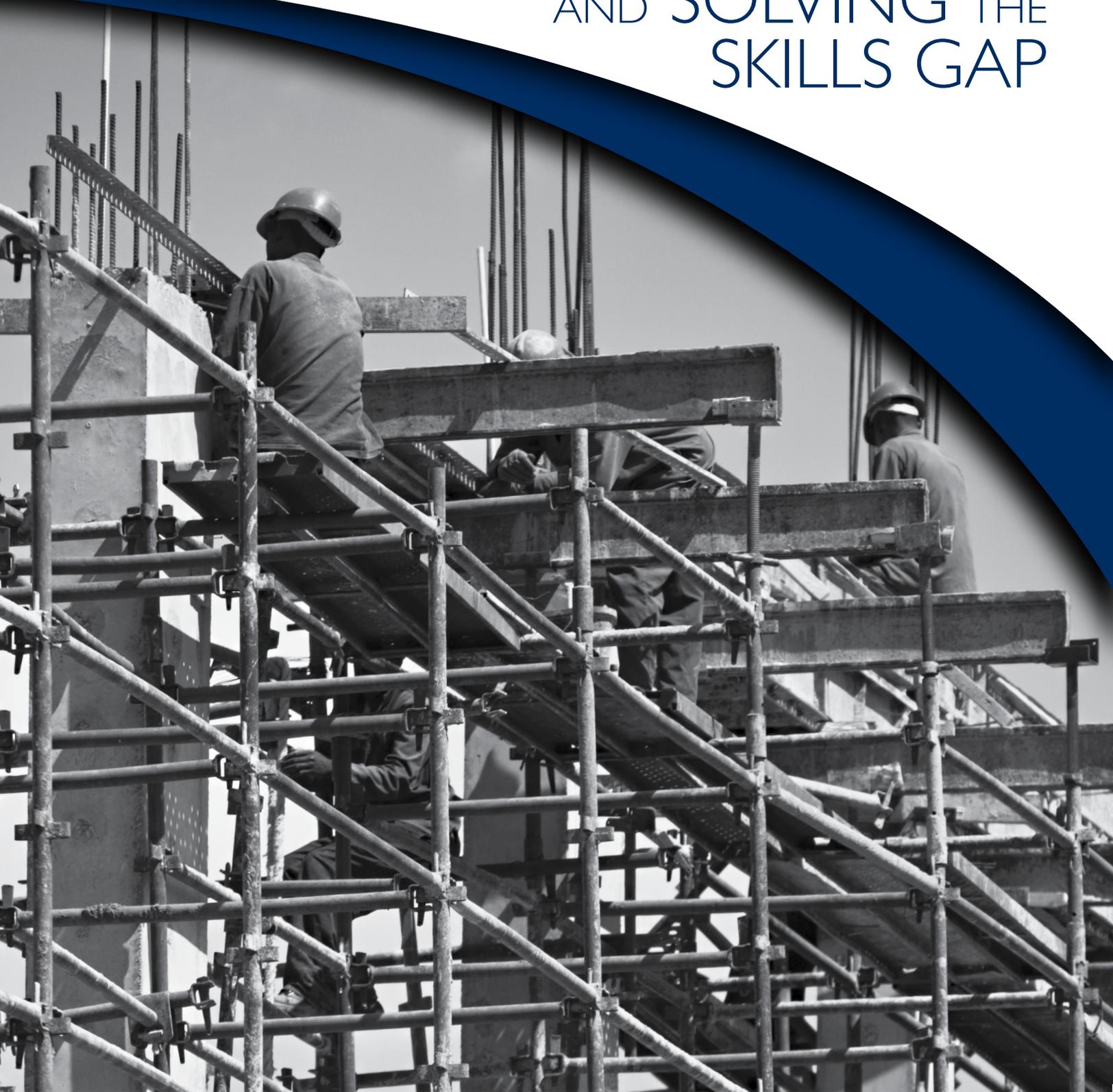# UNDERSTANDING AND SOLVING THE SKILLS GAP

A Call to Action
National Workforce Solutions Advisory Board

ACT®

UNDERSTANDING AND SOLVING THE SKILLS GAP

INTRODUCTION

Business leaders in the United States and around the world consistently report that they struggle to find skilled, qualified workers to support their customers' needs and keep their companies competitive. This skilled labor shortage is particularly prominent in the manufacturing sector, but recent data indicate it is expanding into other sectors, such as sales and information technology.[1,2] While there has been some improvement over the past few years, the skills gap is unfortunately persistent and growing. This is evident from a 2015 report by the Manufacturing Institute and Deloitte Consulting Services that projects the manufacturing sector is expected to need to fill 3.5 million jobs over the next 10 years but 2 million of these jobs will go unfilled.[3] The market demand for skills exceeds the supply of skilled talent, and there is no quick fix to this problem. On the other hand, there is a clear urgency to understand what is precipitating the problem and to find the right solutions for it.

The skills gap is usually evaluated through the lens of employers in an economic supply-and-demand approach and this paper does focus on the problem and solutions from this perspective. However, while industry does dictate the demand, we cannot forget that the talent supply is comprised of people: individuals who constitute the emerging, transitioning, and current workforce. And thus there is a personal side to this skills gap issue—the human factor—of family obligations, career aspirations, and other special aspects that impact job and career choices.

THE IMPACT OF CHANGE

One obstacle to closing the skills gap is that both the needs of employers and the skills possessed by workers are continually in flux due to changing market demands and individual career choices. Companies are undergoing seismic change due to continuous technology advances and the time pressure to achieve immediate results. With global competition growing, the pressures are enormous on companies to make a profit; and their success is directly dependent on having a talented workforce that is flexible and adaptable. The pipeline of workers is also dynamic, shifting constantly due to population growth rates, economic cycles, access to quality education and training, the availability of good jobs, the ability of individuals to control their career destinies, and the proficiency of community and business leaders to work together to match talent to demand.

So what is lacking? Simply stated, there is no standard *common language* between employers and individuals that easily communicates the competencies needed for a job and that demonstrates an individual has mastered them. In addition, there is no standard *process* for employers to easily communicate changes in skills and competencies in real time so they can be quickly adopted by educators and trainers into viable academic and training programs—whether credit or non-credit—with easy on- and off-ramps for the working learner.[4]

CURRENT SITUATIONS

Recent surveys of industry leaders reconfirm a consistent dilemma: businesses are not able to find workers with the right skills.[5] Furthermore, a comparison of results from *Inside Higher Ed's* 2014 survey of chief academic officers and Gallup's survey of business leaders shows a disconnect. In the former survey, 56% of provosts felt their institutions were very effective, and an additional 40% felt they were somewhat effective in preparing students for success in the workplace. In the latter survey, only 11% of business leaders strongly agreed, and an additional 20% somewhat agreed, that graduates have the necessary skills and competencies to succeed in the workplace.[6] These are disjointed perspectives; one group seeing a persistent skills gap problem, while the entities charged with producing a skilled workforce believe they are effectively accomplishing their work. However, it is important to note that many academic leaders believe the overarching task of education is to instill knowledge. In addition, there is no alignment between completion of academic credentials and the subsequent need for continuous learning if individuals are to remain valued and competitive in the workforce. What makes this system even more challenging, especially for the nation's largest employers who often have facilities in multiple states, is that programs of study are taught with local content, making competencies learned inconsistent across the country.

Students are caught in the middle. Some, especially those in high-demand fields and who have a clear understanding of what skills are needed to master their ideal job, find an easy path to securing a post after high school or college. Programs of study that have licensing associated with graduation provide an excellent example (e.g., health care professionals, accountants, engineers, and other similar occupations. But what about those students whose occupational next steps are not quite so clear? How can they validate to employers what they have learned translates to mastered skills? How can employers easily understand the skills individuals possess and make good, informed hiring decisions? And more importantly, how do employers articulate the skills they need individuals to possess?

The challenge is even harder for those who transition through various jobs as a result of career climbing, downsizing, rightsizing, or other factors that impact job change. If churn in the job market is anticipated to be the new norm—and even possibly a measure of community innovation—then how do individuals successfully manage their way from academic completion through the multiple job changes they will experience in their careers? And with the cycle of continuous learning predicted to be more and more non-credit, online, and in the workplace, how do future workers build upon their formal education as they progress through their careers, where lifelong learning is necessary and expected?

The answers to the questions above are clear. The current education, counseling, and training process

should be adapted and connected to support continuously updating programs of study and lifelong learning with *a valid measurement of skills mastered, aligned with skills needed in the workplace*. This key change would enable individuals to then move from educational learning to work-based learning, forever updating and improving in high-demand skills, while at the same time being able to easily communicate and translate the skills they have mastered.

PROPOSED SOLUTION

What is proposed is a standard *common language* and *process* be developed and implemented so individuals can easily understand the competencies needed by industry. This would enable educators and trainers to easily obtain and translate updated competencies information into state-of-the-art programs in cycles of continuous process improvement, adapted at the speed of business for all industry sectors and career clusters. For the sake of simplicity, in this paper we define competencies as abilities and skills, and so *competency* and *skill* are used interchangeably. As a result, students and graduates of this adaptive education and training system would be better able to understand how the skills mastered are communicated to industry and translated into productivity. And, most importantly, this system needs to have easy on- and off-ramps for working learners. With acceptance and usage of common competency language and standard processes to update education and training programs, employers will easily be able to disseminate what skills are needed, then hire, promote, and train based on skill mastery.

It is further proposed that this standard common language be grounded in quality credentials based on competencies that are aligned to the job skills needed by industry. High-quality, industry-recognized, portable, transparent credentials are the common language bridge.

Quality Credentials

Job Seeker   Employer

Credentials, defined as evidence proving a person's qualifications, would be the new currency in a rapidly changing job market but, not all credentials are equal. The maze of different credentials is already presenting a challenge to industry. Which credentials have merit? Which ones should employers invest in to hire or promote to guarantee their companies have the skilled workforce they need? The credential world is in need of a set of quality standards that will ensure that, when a credential is earned in one locality, it represents the same skill level mastered in another. This will allow portability for companies and help simplify the use of credentials in hiring decisions. In addition, to be accepted, a standard process is needed to update quality credentials to industry needs and to disseminate that information quickly into educational programs of study or industry training. Once established, it will take hold as the adopted practice for translating skills into programs of study or training—both credit and non-credit. Furthermore, enabling this system to "connect" credentials to help individuals learn and document

mastery of skills in a changing, evolving work environment will align to the flexible on- and off-ramps needed for working learners.

To truly change the equation, such a system requires workforce development players work together and adopt third-party, quality credentials and accept them as the common standards that measure and validate competencies needed for success in the workplace as shown in Figure 1. This will require all of these actors to agree upon which organizations will determine what constitutes a quality credential and which credentials meet those standards. And finally, for credentials to gain traction, employers must not only buy in but help lead this effort. The system should also include data that demonstrate a return-on-investment for both employers and job seekers. Job seekers need to know that by achieving these credentials, they are more likely to attain a job or their next job. Also, the industry needs to know

that by hiring individuals with these credentials, results in obtaining a better workforce.

A new initiative, the *Credential Engine* (formerly the Credentialing Transparency Initiative), seeks to establish a process for determining high-quality, national, verified third-party credentials. Using a robust technology platform, a body of national think tanks and academic organizations is evaluating credentials based on a set of standards and then verifying they meet the established standards. This work is being led by George Washington University's Institute of Public Policy (GWIPP), Workcred (an affiliate of the American National Standards Institute), and the Southern Illinois University (SIU) Carbondale's Center for Workforce Development. Funding for the initiative is provided by the Lumina Foundation. The steering committee is comprised of leading academic and business organizations, including
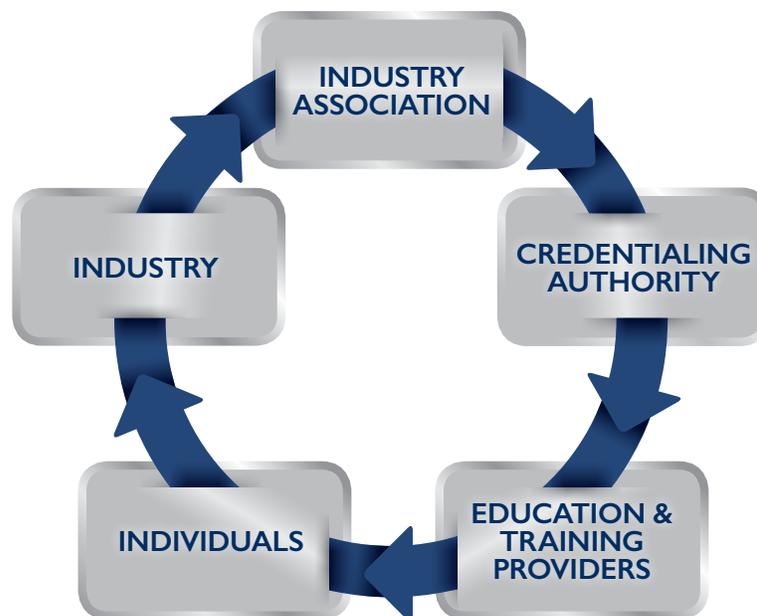

Figure 1: Credentialing system relationships

The Business Roundtable™. This quality credential oversight organization, if accepted by workforce development players as the source of credentialing "truth," could help bring about this transformational change.

Many organizations are working on identifying the essential work and career readiness skills, including the National Network of Business and Industry Associations [NNBIA] in collaboration with The Business Roundtable. In 2013 the NNBIA and the ACT Foundation™ brought together 27 industry associations from all sectors with a single purpose in mind: to identify the common entry-level skills needed by all employers. This work was published in 2014 as the NNBIA Common Employability Skills.[7] These common entry-level skills are divided into four categories: people, personal, workplace, and technical skills, providing a road map for essential skill assessments, credentials, and training tools.

How can these skills now be translated into academic programs of study or training programs? What proficiency level of each skill is needed for each job? How does an individual demonstrate mastery of these skills? This is where defining and measuring competencies and creating credentials become critical for documenting mastery of skills. ACT is leading the charge in this area.

In 2015 ACT published its holistic framework for enhancing education and workplace success.[8] The work provides a comprehensive and integrated picture of education and work readiness from kindergarten to career that organizes knowledge and skills in four broad domains: core academics, cross-cutting capabilities, behavioral skills, and education and career navigation skills. ACT is now using this framework, along with the NNBIA Common Employability Skills, to enhance its workforce portfolio[9] to further help individuals understand the essential skills needed for career and workplace success.

In the same year, ACT also published its *Workforce Policy Platform*[10] with a focus on three main solutions to the skills gap issue: (1) improving foundational workplace skills, (2) ensuring that training is valuable for employers and employees, and (3) helping individuals attain credentials. This tenet includes recommendations that encourage all workforce development contributors to support rigorous standards and high-quality assessments and credentials to integrate them into both education programs and occupational training. Such integration will ensure that both students and working learners are able to learn essential foundational and occupational competencies and earn credentials to demonstrate mastery of them.

Therefore, to achieve employer credential adoption, a robust and scalable credential *implementation* framework is necessary. It is not enough that workforce development partners adopt quality credentials; they should actively work to implement them in their workforce development plans. This will require a scalable community approach comprised of stakeholder workforce development players that has at its center educating employers on the value of quality credentials and ensuring adoption thereof. **Successful implementation will best be accomplished if all workforce development stakeholders at local, state, and national levels all actively contribute to this framework.** These stakeholders include educators and training providers, economic developers, workforce professionals, community leaders, policy leaders, and credentialing providers.

STAKEHOLDER ROLES

The essential ingredient in robust workforce development is collaboration. Many communities develop good plans on paper, but very few build the effective relationships or have the right leadership in place in order to implement them. While many communities may think they have these partnerships, they do not have an effective joint effort unless the roles and responsibilities for each partner are defined around common goals and metrics. Moreover, there needs to be a working relationship and communication between policy at the national and state levels and implementation at the local level (Figure 2).
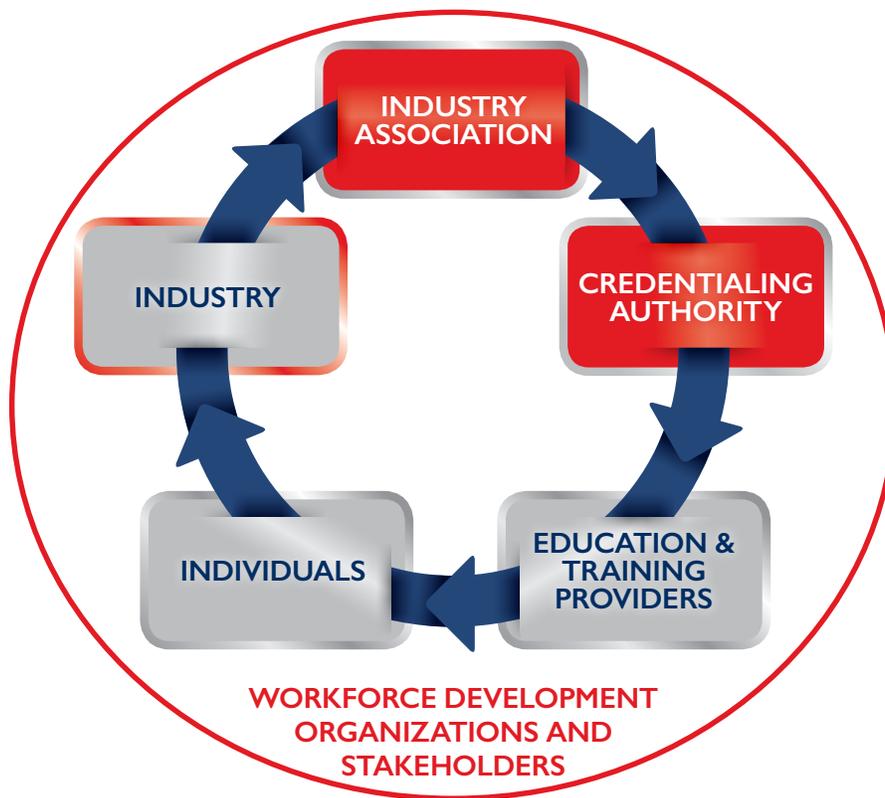

Figure 2: Key partners in implementation of a quality credentialing system.

Note: Red denotes national and state stakeholders and silver denotes a local stakeholder. Industry can be associated with both local and national stakeholders.

Some suggested stakeholder roles and responsibilities to build effective community credentialing approaches are described below.

INDUSTRY: Business and industry are the suppliers of the common language, providing critical information on the competencies and the proficiencies needed to be successful on the job. Working with industry associations, the work skills required will be identified for successful employment. As the required skills are transferred into credentials for documenting skill mastery, it is incumbent upon employers to require and utilize industry credentials as a part of their hiring and promotion practices. It should be noted that industry can be both a local and national stakeholder.

INDUSTRY ASSOCIATIONS: Industry associations serve as the representative voice of industry. They are the catalyst to providing the roadmaps of skills that can be used to inform the development of quality industry credentials and the degree of mastery of these skills needed for specific jobs or occupations. They serve a vital role in understanding the skills needs of their members and bringing this information to third-party credentialing organizations for product development or improvement purposes. Finally, they should serve to provide both oversight and endorsement of quality third-party credentials, helping communicate their value to their industry members.

CREDENTIALING ORGANIZATIONS: Third-party national credentialing organizations are responsible for designing verifiable, evidence-based products that easily communicate results to employers and individuals. They must continuously validate, through research, that their credentials are relevant and meet the needs of both employers and job seekers. They should develop regular curriculum updates for education and training providers, helping them understand how to integrate these skills into academic and training programs. Furthermore, it is important that credentialing organizations collaborate with each other to produce data and research that shows the stackability and portability of credentials, providing a tangible connection between education and lifelong learning.

EDUCATION PROVIDERS: Educators are responsible for preparing the future workforce by ensuring students understand the career opportunities available and learn the competencies needed for workplace success. This worthy goal is often embedded with the greater social mission of sharing and instilling knowledge. An effective way to balance the two goals is to align national, third party credentials—especially ones that validate essential career and work skills demanded by employers—to career readiness indicators. This allows academics to still focus on their core mission of instilling knowledge while reinforcing the skills needed for workplace success. In addition, educational institutions can utilize the outcomes of credentials to clearly demonstrate their success in producing a workforce prepared for the jobs of today and tomorrow.

For this approach to be successful, career counseling must become a high priority. It should focus on students learning more about the broad range of available careers that meet the evolving needs of the workplace and how to connect their interest and skills to an educational pathway that leads to rewarding opportunities.[11]

TRAINING PROVIDERS: Training providers are tasked with providing short-term, highly-specific training for individuals to master a specific skill or set of skills. This stakeholder is one that often endorses and uses credentials and associated credential training curriculum in their programs. This group would benefit from having quality credential standards developed and adopted and, more specifically, a roadmap for connecting credentials together in meaningful ways for more effective training in shorter timeframes.

WORKFORCE DEVELOPMENT ORGANIZATIONS: Workforce development organizations are a key, and often underutilized, entity responsible for ensuring that a state or region's workforce is receiving the training needed to improve economic opportunity through existing employment or new employment. Often, these organizations must focus on hard-to-serve audiences such as dislocated workers, at-risk youth, and historically disadvantaged populations to help bring full employment to their communities. They also work directly with industry to help them understand how to leverage credentials in the hiring process and to provide them with candidates who have successfully earned them. This leads to industry having the right talent for the right job, and individuals who are fulfilled in successful careers. Since these organizations are measured on the number of participants completing training programs and finding and keeping employment at higher wages, the use of quality credentials in the training programs they fund is extremely important. Their work with education and training providers helps connect credentials to reduce training time, enabling individuals to be employed more quickly. In addition, their work with other stakeholder organizations to provide data

to validate credentials leads to greater return-on-investment for both industry and individuals.

ECONOMIC DEVELOPERS: Recruitment, retention, and expansion of business and industry requires a skilled workforce that is aligned to the needs of employers. Economic developers are natural leaders in the area of workforce development. Educating employers on the value of credentials and using a standard process connected to programs of studies in high schools and community colleges is a good fit within an economic development, employer retention strategy. In addition, economic developers can easily aggregate earned credential data to provide a more holistic picture of the quality of a community's workforce.

POLICY LEADERS: Policy leaders serve as change agents by passing legislation and setting budgets. In the workforce development policy area, elected officials and government administrators are instrumental in providing resources and requiring outcomes that lead to successful change. It is important for policy leaders to understand the value of quality credentials in the credit and non-credit arenas. Passing legislation that supports quality credentials ensures that education and workforce development are aligned to economic development, leading to matching skilled people to skilled jobs. Advancing policies with funding and guidelines to support connecting credentials to both education programs and workforce training programs leads to validating a skilled workforce for the purpose of attracting and growing jobs.

INDIVIDUALS: At the end of the day, it is individuals understanding the skills employers seek and mastering them that will close the skills gap.

Their roles are to understand the competencies required for their career aspirations, ensure they are prepared for the necessary education and training, and understand which are the employer-recognized credentials that will validate they have mastered the skills for a successful career. It is also fundamental to their success that they learn career navigation skills and prepare themselves for lifelong learning, which will most likely have online, self-taught elements. Through envisioning themselves as "entrepreneurs" with their careers as their core business, they can take responsibility for continuously updating their skills and knowing how to market themselves for their next career step. In doing so, they will ensure they are prepared for success in the 21st century workforce.

HOW ACT IS MAKING A DIFFERENCE

There are numerous good efforts being made in the credential common language space. Here are just a few examples of some promising best practices:

ACT National Career Readiness Certificate (NCRC)

ACT currently has the most widely adopted foundational skills credentials in the country: the ACT National Career Readiness Certificate (launched in 2006 with currently over 3.5 million credentials issued),[13, 14] is comprised of three ACT WorkKeys® assessments: Applied Math, Reading for Information, and Locating Information. These essential skills align to 74% of the jobs identified in ACT's proprietary job analysis database. This credential is now recognized by more than 15,000 employers nationwide and represents the first traction in mass adoption of a national industry credential as a common language on essential work and career readiness skills. ACT is developing the next generation of WorkKeys assessments and credentials scheduled to be released in Fall 2017,[15] to ensure individuals leave academic programs of study or on-the-job training programs with documentation of essential foundational 21st century workplace skills.

ACT Curriculum and Job Profiling

ACT has solutions to help further connect jobs to curriculum through its job and curriculum profiling tools. To enable stackable credentials, communities can leverage both the job[12] and curriculum profiling process, further aligning the common credential language between workforce demand and supply entities. One example of how ACT has used the curriculum profile process to create stackable credentials is its partnership with the Manufacturing Skills Standard Council. ACT completed a curriculum profile based upon the NCRC for the MSSC certification program—Production Technician.[16] The outcome of this work was to link the attainment of a Silver-level NCRC to successful attainment of the MSSC Production Technician credential thus creating a career pathway for Silver NCRC holders. A second example is the occupational profiles.[17] ACT has developed occupational profiles based on job profiles completed across the country for production technician jobs. These occupational profiles show that a Silver-level NCRC aligns with the work readiness level to be hired for this entry level position. Together, these examples show how these two tools—curriculum and job

profiling—can create a succinct common language between programs of study and job requirement. Community workforce development partners can leverage both in industry sector approaches that can lead to both short- and long- term successful talent pipeline development.

ACT Work Ready Communities

Powered by the ACT National Career Readiness Certificate, ACT Work Ready Communities is a best practice in sustainable workforce development ecosystems. It creates a foundation for leveraging credentials such as the NCRC to bring employers, educators, workforce professionals, economic development officers, and policy leaders together around a common set of goals that link education to workforce development, align to economic development, and match people to jobs. In this effort, data is uploaded monthly and publicly shared on the foundational credentials being earned at the county level across the nation. But the biggest winner is industry. As county leaders from these fields educate employers on what this basic credential means, employers can take a key role by recognizing and recommending the NCRC in their hiring and promotion processes.

RECOMMENDATIONS

To further promote the solutions outlined in this paper, the following recommendations are offered:

1. Support the Credential Engine in building a system to identify and catalog quality credentials with a goal of reliably demonstrating quality assurance and employer value.
2. Connect national, portable quality credentials in stackable formats to foster lifelong learning with easy on- and off-ramps for working learners.
3. Support integration of continuous improvement in a quality credentialing system that provides a standard process to update both credentials and education and training programs as new skills and competencies emerge.
4. Prepare students for lifelong learning through understanding the value of credentials and how to use them to document mastery of skills.
5. Support community implementation frameworks that include mass industry adoption of credentials along with return-on-investment data and metrics that validate quality talent pipeline development partnerships, processes, and programs.

CONCLUSION

The demand for skilled workers exceeds the supply of skilled talent, and there is no quick fix to this problem. This paper is a *call to action* for all stakeholders—educators, industry leaders and associations, credentialing agencies, workforce professionals, economic developers, policy leaders, and individuals—to come together on the adoption of quality credentials as the common workforce development language, and agree to use them as a basis for workforce development, both supply and demand. This will enable job seekers to more easily understand what skills employers are seeking, and determine and demonstrate that they have mastered such skills. If stakeholders will squarely embrace quality, industry-recognized, portable credentials, and if individuals will make the effort to master these skills, we will have a realistic chance to solve the skills gap problem in this country.

ABOUT THE NATIONAL WORKFORCE SOLUTIONS ADVISORY BOARD (NWSAB)

The mission of the NWSAB, founded in 2012 and supported by ACT, is to mobilize a common vision of America's workforce challenges for economic growth and competitiveness in the 21st century. The NWSAB brings together leaders in industry, economic development, workforce development, education, public policy, and nonprofit organizations to provide policy guidance and advice on workforce initiatives to ensure American industry has access to a skilled workforce in the 21st century. The Board is committed to helping America build and implement a credentialing framework that matches people to jobs by linking education, workforce development, and economic development.

ACKNOWLEDGEMENT

A special thank you to Debra Lyons, Principal Strategist-Workforce Engagement at ACT for her role in preparing this paper under the direction of the NWSAB members.

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