



Work Readiness Certification and Industry Credentials: What Do State High School Policy Makers Need To Know?

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Introduction

Growing numbers of policy makers and practitioners view the challenge of preparing youth for college and career as the key to reforming secondary education. Increasingly, policy makers are recognizing that to increase the rigor of high school studies for all students, while also preparing them for the world of work, means rethinking the entire institution of high school. Yet industry and work readiness credentialing has existed in a largely separate domain. The certification landscape is complex and lacks both a unified framework and a conceptual base to guide its application to the high school environment. With a few notable exceptions (Florida, for example, where a work readiness credential can be used to meet some high school graduation requirements), work/career readiness and industry credentialing has been the province of career and technical education programs, programs for out-of-school youth, and workforce and economic development programs aimed at adults.

Achieve, Inc. commissioned this discussion paper to develop a greater understanding of work/career and industry certification and assessment in the context of their high school improvement and ADP goals. It provides background information for the Advisory Group to consider in regard to two questions:

- How do credentials developed exclusively with a work focus fit new thinking about a high school education that prepares all youth for college and career?
- What do high school policy makers need to know about the complex and varied terrain of career/industry preparedness, in the context of established high school reform/ADP goals?

This paper synthesizes the results of our review. First, we characterize work and career readiness and industry credentials. Second, we identify some of the issues that affect the application of these credentials and assessments at the high school level. Third, we identify a few state approaches, and close with suggestions for the Achieve and Education Trust policy position on this issue.

What are workforce and career readiness and industry credentials?

There are thousands of kinds of certification available in the United States, with a variety of purposes. Generally these can be characterized as either *work or career readiness certification*, programs that capture generic proficiencies and skills, or *industry certification*, programs that measure qualifications needed in a specific industry or job function. These two types vary substantially in breadth, depth, currency, and acceptance.

Work or career readiness certification: These assessment-based credentials have been developed to signal to employers that certified individuals possess characteristics that have been identified as important to success in the workplace. They include what

are termed soft skills, the qualities and habits that characterize effective employees, such as punctuality, a work ethic, effective communication, self discipline, and organizational skills), as well as general and basic academic skills, such as math, reading, computer skills, and information retrieval skills. Many of these programs initially focused on the needs of dislocated workers, out-of-school youth, and other individuals lacking recognized credentials, but the concept of work readiness certification is gaining currency as a means of addressing concerns regarding economic competitiveness and the skills (or lack thereof) of the 21st century U.S. workforce.

Some employers say they are not only dissatisfied with the basic academic and technical skills of job seekers but also find that applicants and new hires lack the more general habits and competencies that characterize effective employees. Survey data and other research show that employers believe that recent high school graduates often lack skills such as punctuality, communication, problem solving, and willingness to accept supervision – in addition to appropriate levels of literacy and numeracy -- that are recognized as critical both to an effective workplace and to an individual's successful entry into the world of work. In the early 1990s, the Secretary's Commission on Achieving Necessary Skills (SCANS) and the subsequent National Skills Standards Board (created by the 1994 National Skills Standards Act) led the way in defining and acquiring the skills needed to succeed in the workplace. Appendix B describes some of the common work/career readiness assessments in use today.

Work readiness programs vary, but all are intended to provide certification that is applicable across industries and occupations. Perhaps the best known is the National Career Readiness Certificate, developed by American College Testing, which is linked to ACT's Work Keys program. Work Keys assesses applied job skills, such as business writing, applied technology, locating information, and the like. The Career Readiness Certificate program measures these skills and awards certification at different levels (gold, silver, or bronze, to signify the types of jobs for which the candidate is qualified). The Equipped for the Future (EFF) standards (covering communication, decision-making, interpersonal, and lifelong learning skills) is another well-known work readiness certification program. The Comprehensive Adult Student Assessment Systems (CASAS) program also covers basic academic skills, such as applied mathematics and basic reading, as well as some of the soft skills. Others, such as the Skills USA Workplace Readiness Certificate Program, focus primarily on abilities and personal qualities, such as problem solving, leadership, and ethics. Some states and localities have developed their own, local, credentialing and assessment processes.

Industry certification refers to certification issued by an occupational or industry group to signal completion of particular training, coursework, apprenticeship, or other preparation for a particular job or job category. Many jobs require some form of industry certification as a prerequisite to hiring, and legal licensure is often based on industry-developed assessments. The thousands of certification options available mirror the vast and complex American economy. The development and governance of certification varies widely as well. Some are developed and offered by professional associations or industry groups, where industry representatives convene and adopt industry-wide

standards and measures which may be adopted by their members. In other cases, individual companies (e.g. Microsoft, Cisco) offer proprietary training and certification in the use of particular products (such as software) or equipment.

Definitions:

The terms licensure, credentialing, and certification are used in overlapping ways. The definitions are not fixed, but in general:

- *Licensure* refers to the granting of permission to practice a particular occupation or profession, usually by a state (though often the process is operated by a professional accreditation board). States/legal licensing bodies often rely on the credentialing developed by professional associations—usually requiring passage of a test plus specified experience.
- *Credentialing* refers to the granting of a diploma or other certificate in recognition that an individual has completed a defined body of work that is required for employment in certain occupations or professions (or for legal licensure); e.g. professional skill certificates issued by professional associations that may be based on work experience and/or test results. For example, licensure may be based on successful completion of program that grants certification, which signifies mastery of defined objectives.
- *Certification* is used either as a synonym for credentialing, or to refer to a program that identifies individuals who have gained advanced skills within a profession, such as a medical specialist (as opposed to a licensed general physician) or a master electrician (as opposed to a licensed or certified journeyman electrician). Certification is required for some kinds of legal licensure.

It is impossible to generalize regarding use of certification as a measure of employability or qualifications.

We looked for data regarding the use of work and career readiness credentials and industry certification, specifically quantitative information about job placement, salary, retention and similar factors. Such research is sparse indeed. In short, it is very difficult to characterize the way work readiness and industry credentials are used, perceived, and valued by employers. In the words of one observer, “beware of lots of proprietary marketing and puffery.”

Anecdotally, it seems that, by and large, employers are more likely to rely on an industry-specific indication of preparedness than on a generic work-readiness certification. And some industries—automotive services, for example—rely on job-specific certification more heavily than others do. Certification of specific skills these employers need workers to have has provided a useful signal—a tool that has proven effective in hiring decisions. We did not find solid data regarding the impact of work

readiness credentials on job placement – despite strong sentiment within the workforce development community and proponents of such measures that they do work.

The work readiness credentials that are available have somewhat differing, though overlapping markets. CASAS, for example, has been adopted by programs with missions ranging from workforce development to EvenStart/Family Literacy, as well as private industry, while the National Career Readiness Certificate is targeted primarily at business. Little systematic information is available regarding usage of these programs, but they have gained some acceptance in the secondary education context.

Likewise, there is little agreement about the quality of certification programs, or about how to their quality should be evaluated.

Many employers use industry-specific credentials, but research is not available to support broad claims about their value to employers or workers, in terms of worker retention, length of job searches, or effects on starting wages. Quality standards for the development of the assessments used in industry certification programs exist, but adherence to them is voluntary and their quality is not regulated. Certifications are typically not developed by K-12 educators, or with high school aged youth in mind.

They may incorporate basic academic skills, such as math or reading, but typically only as these skills are needed to perform specific functions. Few address the soft skills that Many employers use industry-specific credentials, but research is not available to support broad claims about their value to employers or workers, in terms of worker retention, length of job searches, or effects on starting wages. Quality standards for the development of the assessments used in industry certification programs exist, but adherence to them is voluntary and their quality is not regulated. Certifications are typically not developed by K-12 educators, or with high school aged youth in mind.

They may incorporate basic academic skills, such as math or reading, but typically only as these skills are needed to perform specific functions. Few address the soft skills that employers and others recognize students also need to succeed in the workplace.

Work-readiness certificates address a concern that employers have expressed, but it is not yet clear that employers have accepted them in great numbers. The jury is still out on whether the skills targeted by these certificate programs can truly be measured in a way that is useful to employers for hiring, job placement, or retention—or useful to individuals in terms of getting hired and improving their earning power.

Both employers and educators are challenged by the number of options available. We examined five well-known models, each of which targets a different combination of skills and knowledge, but none has yet emerged as a national leader. Characterizing the differences among them and assessing their quality and validity would require detailed evaluations that are time consuming and costly. Potential users are left with few concrete reasons to choose one over another, and to determine for themselves which sets of skills are most relevant to the hiring or other decisions they need to make. Moreover, sheer fatigue with the volume of testing that is already embedded in K-12 education may be a disincentive for states to incorporate another testing requirement into their education programs.

Industry specific credentialing processes have developed over time to meet particular industry requirements – and they provide employers with some indicators of technical qualification that can help them assess potential candidates. The value and heft of such credentials is, however, highly subjective and dependent on individual industry and job classification. In some sectors, certification is a clear indicator of a high level of expertise and proficiency. In others, certification may represent a minimal qualification. In some, the certification process is rigorous, time consuming, and subject to regular review and update. In others, assessments may have changed little over time and carry little value to workers of employers.

Certification has typically been a CTE program issue

Historically, industry certification has fallen under the purview of Career and Technical Education (CTE) programs. The 2006 reauthorization of the Perkins legislation has increased pressure on states to update their CTE programs to ensure that they are industry-relevant, current, and sufficiently advanced. By 2010, all CTE programs that benefit from federal funding will need to be certified by a third party—an industry, company, or organization. Existing industry and work readiness certifications that states could use in complying with this regulation number in the thousands, and many states are scrambling to make sense of the choices. This is a requirement that many analysts have argued is long overdue – that high school level CTE should, at a minimum, equip students with the appropriate industry accepted technical standard. The concept that industry based certification is a value added to the high school diploma has gained currency in many states.

Matches between existing CTE programs and existing industry credentials are spotty. Many industry credentials require apprenticeships and other experience that is intended to come after high school or are mismatched to high school requirements for other reasons.

Career Pathways. Models such as career academies--small learning communities within high schools in which academic and technical coursework are combined with opportunities for internships and other real world applications of subject matter, all organized around a career-based themes, such as health sciences or informational technology—offer ways to integrate different kinds of learning and goals. Many high schools are being transformed into places where students not only take rigorous college-preparatory math, science, and other subjects, but also have opportunities for work internships in areas of interest, complete portfolios of projects that draw on a range of skills and allow them to apply their learning, and are encouraged to stretch their thinking about where their interests may lead them. Such organizing schemes may be the best and sufficient means of exposing students to career readiness and industry specific content.

Career pathways describe the routes students navigate through career academies, and it is here that certification may best fit the career academy model in some cases. The

goal of the career academy is to make sure that all students with an interest in health sciences, for example, have the opportunity to learn about the range of career options that field encompasses, and what steps they need to take to achieve an objective. Industry or work readiness certification may be the appropriate credential for some goals, while a nursing degree, a master's degree, or a medical degree will be necessary for others.

Approaches in the States

Current state approaches to workforce and industry certification vary widely as policy makers attempt to square their education reform agenda with economic and workforce development challenges as well. Some, such as Maryland, have developed CTE pathway programs designed to integrate preparation for career and post secondary education; their pathways guide students through the coursework needed for industry certification, licensure, or post secondary placements, based on their interests. Ohio and New York have both promoted alignment of their career pathways to industry standards wherever possible.

Other states, such as Arizona, have steered away from the career cluster approach, opting to develop job-specific technical assessments. North Carolina is noteworthy for the tight alignment between its curriculum standards and assessments, which are also closely linked to occupational requirements. States in New England are collaborating to share the burden of developing workforce certificates; partner states draw on a communal pool of items developed to support an assessment model that is broad enough to meet all of their needs, customizing their assessments as necessary. Hawaii has developed a similar model for its districts to draw from. Others, such as Pennsylvania, are allowing local jurisdictions to adopt or develop whatever certification programs seem to suit their needs.

The Florida Department of Education, which has made workforce development a high priority, has a tiered diploma system that includes a credential-based option for students who are focused on career preparation. An accelerated (three-year) program allows students to graduate with fewer credits (18, as opposed to 24) and to earn some of them through an approved vocational, career, or technical education program. The state also uses a credentialing program, called Florida Ready to Work, which is linked to the ACT WorkKeys program (issues a three-level credential documenting skill mastery) and also offers students tutorials to improve their skills. Indiana also has a diploma option that allows students to meet some credit requirements by completing a career/technical program and earning a state-recognized certification, the "Core 40 with technical honors" diploma.

It is too soon to know which of these approaches are most effective, which are feasible, and which will yield the best results. Nevertheless, states are eager to meet the needs of the companies and industries that provide the greatest numbers of jobs, and the most desirable jobs, for their citizens. They know that an educated workforce is key to

attracting employers who can boost their economic productivity. State education policy makers also know that options for students with no more than a high school diploma are decreasing. Their primary questions are to discern what employers and postsecondary institutions require, and what is in the best interest of students.

A framework for high school improvement

Without a doubt, coordinating secondary and post-secondary systems, the needs of employers, and the possibilities presented by work readiness and industry credentials is a big challenge. But while the universe of industry and work-readiness credentials is complex, the focus for those committed to ensuring that all youth are prepared for college and career may be more straightforward. Several points are clear:

- Industry certification is necessary to enter many occupations. In general, however, those job specific requirements are not the domain of a high school education, but a post high school pursuit. The content required to be industry certified is not well aligned with high school curricula; nor are credentials designed with a specific job category in mind generally applicable outside of the occupations in which they are offered.
- General workforce readiness assessments have not yet proven their value to employers or the validity of the measures they offer, despite general, intuitive agreement regarding the types of knowledge, skills, and abilities that prepare an individual for successful careers.
- Industry certifications are developed by industry for purposes unrelated, or related only tangentially, to K-12 education (i.e., they typically assume successful completion of a meaningful secondary educational program, or its surrogate).
- The skills that support academic success are not qualitatively different from those that support success in the workplace, as evidenced by the fact that employers and post secondary institutions share concerns about the readiness of high school graduates. The solution to deficiencies may lie not in separate sets of requirements for work readiness, but rather in examining instructional practice to ensure that students develop the skills needed to succeed in both sectors.
- Students need guidance in learning to navigate the increasingly complex choices and requirements that will face them once they enter post secondary study AND the world of work, and such guidance is woefully lacking for students parents.
- States need to find third-party certifications that meet their students' needs and also allow them to comply with Perkins.

Neither selected industry certifications, even those most desired by local employers, nor work readiness certification, are likely to meet all of a state's needs, though both may

play a role. Certainly many students will need industry certification and will benefit from guidance as to which ones will help them meet their career goals, as well as opportunities to meet the requirements.

Students also need opportunities to build the kinds of skills that enable them to successfully manage their responsibilities—in high school, post secondary institutions, and work environments. Ninth grade academies have been one strategy through which high schools work with students to develop habits, such as regular attendance, punctuality and time management, deemed necessary to success. However they are acquired, these kinds of skills provide the foundation on which the capacity to manage responsibilities, such as higher-level coursework, internships, apprenticeships, post-secondary study, and eventually full-time employment, is built.

Conclusion

Achieve and the Education Trust have been very consistent in stressing the paramount importance of academic rigor for all high school students. The potential value of industry or work readiness certification must be evaluated in that context. These programs are tools that some states may choose to use as part of their programs for ensuring that students are ready for the world of work. More important than these assessments, however, is the goal of using curriculum and instruction at every level to build the skills students will need to succeed in post-secondary study and the workplace. The basic academic skills and the so-called soft skills and habits of mind are more effectively addressed if they are built into expectations across the curriculum and across developmental levels.

We recommend that Achieve and the America Diploma Project consider the following in developing their policy position on work readiness and industry certification:

1. *The primary responsibility of state educators is to their students, so the focus of policy regarding industry and work readiness certification should be meeting their educational needs. Students need:*
 - Meaningful opportunities to experience real-world applications of their academic and CTE learning, and to build the life and work skills that will help them succeed in academics and the workplace; requirements for industry or work readiness certificates can be useful tools for ensuring that students get these opportunities.
 - Preparation and guidance regarding industry or other certifications that can help them meet career goals, together with other guidance about preparing for post secondary and career options.
2. *Neither industry nor work-readiness certification should replace or crowd out academic goals for any student.* Certification may be a valuable supplement to a high school diploma, but it should not take precedence over comprehensive preparation and mastery of all graduation requirements.

3. *Neither industry nor work-readiness certification can be a substitute for other high school reform strategies.* Certification can be a tool for increasing the relevance of career and technical education, but linking CTE programs to specific certifications should not be a substitute for boosting rigor for all students. Nor should the requirement that CTE programs be linked to third-party certifications be an excuse to relax the goal of integrating CTE into the broader framework of academic goals for secondary students, whether through career academies and pathways or by other means.
4. *A sufficient foundation does not yet exist for endorsing any one of the work readiness credentials.* Individual states may find work readiness credentials useful as a means of bridging education and the economy, either because strong local industries have endorsed them, or because a particular one is well aligned with the state's goals for secondary education.

Just as individual students need an educational program that is tailored to their needs and goals and also ensures rigorous preparation in the core subjects, states need tools that can be tailored to meet their goals for educating their citizens. Work readiness and industry certification provide one such tool, but belong on the periphery of robust high school improvement policy and practice.

Appendix A **Sources Consulted**

American College Testing (no date). Career Readiness Certificates: A Guide for Policy Leaders.

Association for Career and Technical Education (2006). *Reinventing the American High School for the 21st Century, A Position Paper*. January 2006.Bartlett, Kenneth R. (no date). *The Perceived Influence of Industry-Sponsored Credentials to the Information Technology Industry*. National Research Center for Career and Technical Education.

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We also conducted interviews with individuals in research, policy and practice roles to capture their perspectives regarding these issues.

Appendix B

Sample Career Readiness Assessments

- National Career Readiness Certificate, developed by ACT. Linked to WorkKeys (job skills assessment system), candidates are assessed in applied mathematics, reading for information, and locating information. Based on scores, they are awarded gold, silver, or bronze-level certification that indicate readiness to succeed in different kinds of jobs. <http://www.act.org/certificate/index.html>
- National Work Readiness Credential. Certification of work readiness for entry-level work as defined by employers, based on the nationally validated Equipped for the Future (EFF) applied learning standards, which were created by the National Institute for Literacy over a ten year period. Sponsored by seven “development partners” (District of Columbia, Florida, New Jersey, New York, Rhode Island, Washington and JA Worldwide <http://www.workreadiness.com/>
- Comprehensive Adult Student Assessment Systems (CASAS). System for assessing adult basic reading, math, listening, writing, and speaking skills within a functional context. CASAS is approved and validated by the U.S. Department of Education and the U.S. Department of Labor to assess both native and non-native speakers of English. The assessments (Workforce Skills Certification Program, or WSCS) cover reading comprehension, math, critical thinking, problem solving, applied performance, and basic technology.
<https://www.casas.org/home/index.cfm>
- Skills USA Workplace Readiness Certificate Program. Assesses foundation abilities and personal qualities, such as communications, problem solving and critical thinking, leadership, ethics. Developed by National Occupational Competency Training Institute and the National Association of State Directors of Career Technical Education. NOCTI also offers certification programs for occupational groups, such as American Culinary Foundation
<http://www.nocti.org/skillsusa.cfm>
- Work Certified program. Assesses reading comprehension, mathematics, business writing, use of computer and business tools, customer service, work maturity, and other skills. Developed by the Treasure Coast and Palm Beach workforce development regions in Florida; adopted by other Florida districts and districts in IL and TX. <http://www.workcertified.org/>

Appendix C

Description of Career Clusters and Career Pathways

Career Clusters provide a way for schools to organize instruction and student experiences around sixteen broad categories that encompass virtually all occupations from entry through professional levels. Resources such as knowledge and skills structures are available for each of the sixteen clusters. The sixteen clusters (from the US Department of Education) are:

 A griculture, Food & Natural Resources	The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.
 A rchitecture & Construction	Careers in designing, planning, managing, building and maintaining the built environment.
 A rts, A/V Technology & Communications	Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.
 B usiness, Management & Administration	Business Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy.
 E ducation & Training	Planning, managing and providing education and training services, and related learning support services.
 F inance	Planning, services for financial and investment planning, banking, insurance, and business financial management.
 G overnment & Public Administration	Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration at the local, state, and federal levels.
 H ealth Science	Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.
 H ospitality & Tourism	Hospitality & Tourism encompasses the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services.
 H uman Services	Preparing individuals for employment in career pathways that relate to families and human needs.
 I nformation Technology	Building Linkages in IT Occupations Framework: For Entry Level, Technical, and Professional Careers Related to the Design, Development, Support and Management of Hardware, Software, Multimedia, and Systems Integration Services.
 L aw, Public Safety, Corrections & Security	Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.
 M anufacturing	Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

 Marketing, Sales & Service	Planning, managing, and performing marketing activities to reach organizational objectives.
 Science, Technology, Engineering & Mathematics	Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.
 Transportation, Distribution & Logistics	Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

Source: US Department of Education, Office of Vocational and Adult Education

Appendix D

Quality

Tests are used for most credentialing/licensure programs. Their function is to provide assurance that those who pass the test possess the skills and knowledge required to meet a certain standard, usually to successfully carry out a particular kind of work. There is little quality control for workplace credentialing programs. Formal evaluation would be the way to ascertain that an individual test or other procedure used to award certification is technically sound. Evaluation of the assessments used for credentialing typically focuses on a review of their psychometric characteristics, which include evidence of validity, fairness, and reliability.

Several professional organizations offer published guidelines for certification or credentialing programs:

- *Standards for Educational and Psychological Testing*. American Educational Research Association, American Psychological Association, National Council on Measurement in Education, 1999
- *Principles for the Validation and Use of Personnel Selection Procedures*. Society for Industrial and Organizational Psychologists, 2003
- *National Commission for Certifying Agencies* (NCCA)
- *American National Standards Institute* (ANSI)

Adherence to these standards is purely voluntary (ETS and others offer voluntary accreditation "audits" that provide some assurance of quality). There is little research on this question.

Several organizations offer support and standards:

- Council on Licensure, Enforcement, and Regulation (CLEAR). Resource for those involved in the licensure, non-voluntary certification or registration of the hundreds of regulated occupations and professions conferences, publications, training, inquiry and other services, CLEAR helps its members carry out their shared mission of public protection.
- The National Organization for Competency Assurance (NOCA). A non-profit organization dedicated to providing educational, networking and advocacy resources for certification organizations. NOCA's accrediting body, the National Commission for Certifying Agencies (NCCA), evaluates certification organizations for compliance with the NCCA's *Standards for the Accreditation of Certification Programs*. The NOCA provides resources to organizations with certification programs; the NCCA evaluates those certification programs based on predetermined and standardized criteria.