



APPENDIX D

Description of the Standards Alignment to Industry Clusters Project (2017–2018)



The Standards Alignment to Industry Clusters Project and Content Standards 2.0

The 2016 *Texas Adult Education and Literacy Content Standards* was intended to develop college and career readiness standards in adult education and literacy (AEL) that link adult education, post-secondary education, and the world of employment. The focus of the 2016 standards was mainly on academic outcomes; the second phase of *Standards 2.0* was to explore applications of the standards to employment.

The Standards Alignment to Industry Clusters (SAIC) project was a grant-funded project of the Texas Workforce Commission. The project was conducted from June 2017 to August 2018 with the objective of aligning the 2016 *Texas Adult Education and Literacy Content Standards* to knowledge, skills, and abilities required for success in high-demand entry- and intermediate-level jobs that have career potential for adult education customers.

Under the guidance of the Texas Workforce Commission, four lead organizations worked in partnership with adult educators and subject matter experts from the four target industries to develop the content for *Content Standards 2.0*. The forty-one subject matter experts have extensive backgrounds in training, education, and the world of work. Over a year's time (June 2017 – June 2018), the experts convened in person and virtually to align the knowledge, skills, and abilities needed for in-demand jobs with career potential with the AEL Content Standards. The names and affiliations of the team members are provided in Appendix F.

Employers: The twenty-eight industry representatives ranged from former oil and gas executives, construction trades entrepreneurs, and healthcare human resources directors to manufacturing training managers and distribution center managers. They came from diverse geographic regions of the state. Many had experience partnering with educators to help prepare students for work in their sectors. Several had learning programs on site at their companies, for example, for English as a Second Language, technical skills, or other areas.

Adult Educators: The fourteen subject matter experts representing adult education and literacy programs from around the state had years of experience in the development, delivery, and management of instruction. The team included bilingual instructors and program managers as well as those with expertise in the development and delivery of workplace literacy. The teams were led by project managers with decades of experience in adult literacy and workforce development, including multiple projects with Fortune 500 employers and public-private workforce education partnerships.

The Standards Alignment to Industry Clusters Project and Content Standards 2.0 (cont.)

Lead Partners: Four primary partners guided the development of the content for *Standards 2.0*. The partners included experts with decades of experience in adult literacy and workforce research and development, national and state standards, public-private workforce education partnerships, and industry training and credentialing.

- **Literacy Texas** – the statewide literacy coalition, connecting and equipping literacy providers through resources, training, networking, and advocacy.
- **Educational Testing Service (ETS)** – the world’s largest educational assessment and research organization.
- **National Center for Construction Education and Research (NCCER)** – dedicated to standardized training and credentialing for the industry in order to develop a workforce that is safe and productive.
- **Haigler Enterprises International, Inc.** – a consulting firm with extensive experience in adult literacy, workforce analysis, public-private partnerships, and academic and skills standards.

The SAIC project examined high demand jobs in four key industry clusters – Advanced Manufacturing, Construction and Extraction, Healthcare Sciences, and Transportation, Distribution, and Logistics. These clusters were selected because they are expected to grow in all regions of Texas and because each cluster offers a wide variety of job opportunities and pathways. The project convened a working group from each cluster consisting of employers and key industry staff who examined the 2016 Content Standards to determine their relevance to jobs and industry employment requirements. Subject matter experts from AEL were then convened to evaluate the findings and recommendations of the industry cluster working groups.

The Standards Alignment to Industry Clusters Project and Content Standards 2.0 (cont.)

The project also relied heavily on O*NET¹ for data and general information on high-demand jobs in the four target industry clusters. The Educational Testing Service (ETS) led the research effort to identify high-demand occupations in the four target industry clusters and related critical characteristics across the jobs. ETS:

- identified high-demand jobs for each of the four industry clusters based on data from Texas Workforce Commission reports (2015/2016) and jobs in O*NET that show positive growth projections in Texas (15% or more) from 2014-2024.
- used O*NET to conduct research on knowledge, skills, abilities, work activities, and work styles for Texas high-demand jobs for each of, and across, the four industry clusters.
- calculated the Mean (to show overall high level of importance) and Standard Deviation (to represent the range spread of characteristic importance). ETS used these to identify the critical characteristics that were focused on high importance across the majority of the jobs.

Additional job-related information was provided by the industry cluster and AEL subject matter experts. The industry cluster experts provided specific work-related examples tied to positions and tasks in their sectors. The AEL experts conducted research about high-demand entry- and intermediate-level jobs in O*NET to confirm these critical characteristics.

The project team developed draft documents that aligned the standards with the work-related information. The subject matter experts provided feedback and validated the information. Finally, the draft documents from the SAIC project were integrated into the *2016 AEL Content Standards and Benchmarks*. The resulting product was re-named *Content Standards 2.0*.

¹U.S. Department of Labor's Occupational Information Network.

Why is it important to align academic standards to jobs?

A good career requires college-ready and career-ready knowledge and skills. Leading economists who have examined labor market projections note that key college- and career-ready knowledge and skills are closely linked to being able to get the training necessary to earn a living wage in high-growth industries (Carnevale & Desrochesrs, 2002, 2003). It is important, then, that Adult Education programs provide students the opportunity to acquire these skills to pursue their long-term career aspirations and goals.

The employers who participated in SAIC agreed that preparing students with knowledge and skills used on the job would help students succeed at work. Representatives from the healthcare sciences industry, for example, said that they would prefer to train employees on competencies and skills needed instead of accepting blanket certifications and degrees that do not ensure job readiness. The implication for AEL providers, they say, is that *Standards 2.0* can help students achieve academic competencies through work skills.

A representative from advanced manufacturing put it this way: “This project is important now. There is an urgent need for the employer voice that can’t wait another two to eight years to set educational standards for industry.” An employer from the construction industry said that *Standards 2.0* provides a teaching opportunity in which employers can be translators, helping educators better understand what the workplace requires of their students. The project’s end game, one industry representative added, is about competencies and skills, not just about education levels.

Subject matter expert employers from the four industries identified moderate to severe shortages in finding workers. In transportation, for example, there is a severe shortage of truck drivers that will significantly impact the industry. In construction, likewise, a significant lack of skilled tradesmen makes infrastructure projects much more challenging.

Why is it important to align academic standards to jobs? (cont.)

The *Standards 2.0* initiative also supports the Strategic Plan for Adult Education & Literacy, 2015 – 2020. A central component of the initiative was engaging employers to align the standards with knowledge, skills, and abilities that lead to success on the job and careers as described in the table below.

Strategy 1, Objective 2: Increase business and employer community roles in AEL.
Tactic 1: Engage businesses, chambers of commerce, and the Texas Association of Business in developing strategies for increasing employer engagement in AEL.
Tactic 2: Fund and support with technical assistance work-based projects with employers to support business expansion and build employers as AEL allies.
Tactic 3: Engage employers and employer organizations and expand investments that have proven effective within the 28 Local Workforce Development Boards in efforts to align AEL levels to occupationally-specific skills and work-readiness requirements, including work-recognized certifications.

How can Content Standards 2.0 be used?

By aligning the standards to competencies required by employers, the standards become a resource for program improvement. Workforce development specialists can use the standards to:

- Guide the development of skills required for work;
- Define skills and tasks not easily identified in academic standards;
- Focus instruction and career guidance;
- Promote AEL and students as an employer resource;
- Engage employers and workforce professionals actively in AEL; and
- Review skill requirements in other sectors.

How can Content Standards 2.0 be used? (cont.)

Standards 2.0 creates a valuable resource for a broad spectrum of stakeholders:

Instructors can use the standards to ensure learning activities support a trajectory toward both college and career readiness while supporting students in better understanding how what they learn applies to work.

Curriculum developers can use the standards to outline required content and skills and develop and align curriculum, instruction, and assessments to work requirements.

Career navigators, job developers, and vocational rehabilitation counselors can use the standards to better target career counseling along defined career pathways to better prepare students for successful, long-term employment and continued career progression.

Employers can use the standards to better develop job descriptions as well as succession paths for current workers.

Integrated education and training staff can use the standards to contextualize curriculum and activities to ensure programs better match learners' skills with job requirements.

Directors can use the standards to build program objectives, and curricula, select instructors, and deploy professional development to support the critical skills and knowledge expected and required for success at work, in college, in training and into employment.

What skills are more relevant for work?

Industry subject matter experts emphasized that there are several areas that are critical to success in employment across jobs and sectors. Examples of critical characteristics that are relevant to in-demand entry-level and intermediate-level jobs with career potential include the following:

Critical Thinking

Employers are clear in their definition of critical thinking. It's about the application of thinking skills on the job.

A representative from the transportation/distribution/logistics sector explained that critical thinking is a bedrock for all courses and evaluations. It is about how students take in information, synthesize it, and apply it. The ability to think critically constantly evolves. The importance of a business workplace context can be important in learning how to apply this skill.

An expert from the healthcare sector said that: "Critical thinking environments require that employees determine what information is lacking and how to make decisions without pieces of information that are needed." The lack of critical thinking, as another put it, impacts decisions made by healthcare professionals at all times: "What is paramount is knowing what you are doing and why."

As more than one employer and multiple educator experts pointed out, critical thinking in the workplace is an amalgam of skills, typically brought together in response to a problem. It is not enough to be able to solve a problem on a worksheet in a class setting. In the workplace, first the problem has to be discovered, then defined, and broken into component parts before different options for solving the problem become clear. All of these steps require critical thinking. It is a skill, another healthcare representative said, that improves with years of experience and exposure.

Communication

Communication is an essential part of work and life. Research repeatedly demonstrates that effective communication ties to an organization's productivity and performance, and to employee engagement. As one example of the importance of communication, employees at all levels must understand and be able to communicate around safety or lives could be at stake. Communication may be called on when members of a team must collaborate to determine the root cause of an issue and to support critical thinking. Active listening is an important aspect of communicating at work. Whether it is a daily start-up meeting, working with a colleague or customer, or receiving instructions, employees are expected to be focused listeners and to ask appropriate questions to clarify information being relayed.

Communication, of course, is also fundamental to success in learning.

What skills are more relevant for work? (cont.)

Teamwork

Effective teamwork is also vital to success in the workplace. On effective teams, all the workers actively contribute, often in collaborative problem-solving. Workers must respect and help one another because they depend so much on each other. Team members focus on a common goal while executing related tasks. All aspects of communication are important as is mutual support.

Technology

Can you think of a job with career potential that doesn't involve technology? Virtually every career and industry are becoming more technology-reliant and there is every indication that this trend will continue. Therefore, students with the ability to understand and apply technology on the job will be better positioned for success and advancement.

The industry cluster representatives emphasized that technology as it is used in the workplace can be applied across the standards. A sub-team of adult educators and employers in the project identified a resource that can help support educators and workforce development specialists as they include applied technology in lessons and activities. The International Society for Technology and Education (ISTE) is comprised of educators from around the world who support technology as a way to improve learning. The organization has developed a set of ISTE Standards as a framework for students, educators, administrators, coaches, computer science educators, and others to develop innovative learning strategies. The SAIC team members recommend the standards as a best-practice approach to help integrate work-relevant technology into adult learning.