Closing the
Skills Gap

Industry certifications can go a long way toward fixing what traditionally has been a stubborn problem for manufacturers—finding the skilled workers they need.

By Leo Reddy
in highly skilled manufacturing resources.

The difficulty in closing this gap lies with inadequate treatment of its fundamental problem: the deep-rooted misalignment between industry needs and what our nation’s schools are providing. An article in “The Wall Street Journal” on February 28, 2014, reporting new Lumina-Gallup findings on this subject concluded that there remains a “vast disconnect” between the value that business leaders attach to college education and the value that educators attach to it.

**Industry, Government Involvement Is Essential**

This profound historical, cultural, structural and, indeed, philosophical disconnect explains the skills gap more than any other cause. It is folly to think that the education establishment will solve this challenge by itself. The single-minded preoccupation with the philosophy that everyone should “go to college,” often to exclusively pursue liberal arts degrees, has dominated the education establishment for decades.

The persistence of this tradition has resulted in the downgrading of vocational-technical education. The U.S. Department of Education has noted that vocational training for high school students has fallen 15 percent since 2000. In addition, this “classical education” tradition has eclipsed the utilitarian, business-friendly philosophy that a fundamental purpose of education should be to prepare all students as efficiently as possible for productive employment in the nation’s economy. There is also the practical challenge faced by schools in coping with the relatively higher costs of technical education, including advanced tech centers.

The only force strong enough to move the education pendulum towards an educational system that responds more directly to the skill needs of industry is industry itself, reinforced by more responsive public policy. Fortunately, industry has been weighing in on this issue with increasing focus for more than two decades, and government has been responding.

**The Rise of Skills Standards**

In response to industry concerns about the skills gap as early as the 1980s, the G.H.W. Bush Department of Education offered grants in 1990 to industry groups to develop industry-defined national skill standards. The thesis was that once industry defined its skills needs in a structured format that could be applied nationally, educators would begin to align their
courseware with those well-defined needs.

These grants provided the foundation for the rising prominence of two of the industry-led national standards programs supporting advanced manufacturing: the Computer-aided Drafting and Design Standards of the National Council for Advanced Manufacturing, and the Precision Machining Standards of the National Institute for Metalworking Skills.

Building on that experience with industry standards, Congress passed a bipartisan National Skill Standards Act in 1994 that created a federal National Skill Standards Board chaired by a prominent industry executive, Jamie Houghton, former Chairman and CEO of Corning, Inc. The role of that Board was to identify industry associations that would define the industry-wide skills standards and related certifications for front-line work (entry-level through first line supervisory) for all sectors of the economy.

The National Coalition for Advanced Manufacturing won the competition to serve as the manufacturing industry association responsible for defining those standards and certifications and formed the nonprofit Manufacturing Skill Standards Council (MSSC) for this purpose. The response from the manufacturing community demonstrated the appeal of this approach, with more than 700 companies volunteering their expertise to format, draft, and validate industry-wide skill standards nationally. The primary company interest was the creation of a nationwide nomenclature for manufacturing skills that would support a national certification for production work—along the lines of the successful Automotive Service Excellence (ASE) certification for automotive service technicians.

The federal National Skill Standards Board officially endorsed the MSSC Standards in 2001—making them effectively a common language that industry could share with education as the authoritative reference point for developing curriculum based on industry-defined skill needs.

Updating its standards annually to ensure that they remain current with industry best practice, MSSC has since developed comprehensive, standards-based training and certification systems for front-line work in manufacturing and supply-chain logistics. MSSC offers the Certified Production Technician (CPT) and Certified Logistics Technician (CLT) programs. MSSC also offers a green production certificate for companies interested in integrating their production workforce into their sustainability strategy.

Certification Milestones

Cited below are other milestones along the pathway towards increasing adoption of industry-recognized national certifications.

Partners

- Foundational level: American College Testing National Career Readiness Certificates for economy-wide applied academic knowledge (applied math, reading, locating information) and MSSC’s CPT Certification for industry-wide core technical competencies in the four critical work functions of manufacturing (safety; quality; production processes; maintenance awareness).

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The George W. Bush Administration used the industry-led MSSC Standards as the research foundation for an “Advanced Manufacturing Competencies Model” at the U.S. Department of Labor and a “Manufacturing Career Pathways Model” at the U.S. Department of Education. Labor also included a requirement in its workforce training grant announcements that training funds must be used to help individuals secure either an academic degree or an industry-recognized credential.

The National Association of Manufacturers (NAM) in 2009 initiated a NAM-endorsed Skills Certification System based on “stackable” credentials issued by well-established national certification bodies. (See sidebar on “Founding Partners” of this system on the previous page.)

The Obama Administration provided $2 billion to community colleges to develop curricula linked to industry skill needs and certifications. President Obama set a goal in 2011 of preparing 500,000 individuals with the NAM-endorsed Skill Certifications within five years. In 2012, a White House Military Credentialing Task Force started providing active duty service members with industry certifications so they would leave the armed services with higher job placement prospects.

Congress in June 2014 passed a bill with strong bipartisan support—the Workforce Innovation and Opportunities Act (WIOA)—to update the public employment and training program to better support the attainment of “post-secondary” credentials to help secure “in-demand” jobs. Of special significance is the top priority given to industry certifications in the bill’s legal definition of “Recognized Postsecondary Credential.”

State Legislatures: Driven mainly by companies and associations (state manufacturing associations, state chambers, and industry associations), 21 state legislatures have passed bills in the past two to three years calling upon state education agencies to make greater use of industry certifications.

Certifying the Certifiers

Not surprisingly, the growing demand for certifications has created a groundswell of certificate/certification programs, most of which do not have the scope, quality, experience, processes, and research foundation needed to serve as bona fide industry-recognized, nationally portable certifications. The American National Standards Institute (ANSI), the U.S. office of ISO, has responded to this shortcoming by championing a new ISO Standard 17024, with rigorous quality criteria for accrediting

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personnel certification bodies.

To date, ANSI has accredited credentials offered by 49 national certification bodies in various fields, including healthcare, engineering, energy, construction, and information technology. Examples of some of these that are better known to the manufacturing industry are MSSC, Cisco Systems, CompTIA, Board of Certified Safety Professionals, Green Building Certification Institute, Institute of Hazardous Materials Management, and Refrigerating Engineers & Technicians Association.

As the milestones in the evolution of industry certifications suggest, the U.S. is in the early stages of an industry-driven national movement that has the potential to close the skills gap and swing the education pendulum back to giving higher priority to employment-related educational knowledge and skills in the nation’s schools.

The benefits to manufacturing companies of industry certifications are well documented. The Manufacturing Institute, Joyce Foundation, and Magnet published a report in November 2013, “National Survey on the Value of a Credentialed Workforce,” that ranked 13 selected impact measures. More than 80 percent of company respondents gave the highest ratings to the following seven (in order):

1. Decreased on-the-job training time/cost
2. Improved company performance
3. Enhanced workplace safety
4. Increased productivity
5. Enhanced quality practices
6. Increased employee engagement
7. Improved hiring practices.

We’ve Only Just Begun

While a solid foundation of proven, industry-led, national certification programs and supportive public policies has been laid, significant barriers remain to elevating the industry certification movement to full nationwide implementation. The goal should be the high standard set by ASE, which now certifies over 70 percent of all automotive technicians out of a total of some 800,000 auto-service tech jobs nationwide.

Since there are 6,000,000 jobs in the U.S. Bureau of Labor Statistics list of 90 “Production Occupations,” certifying them at the ASE level would mean issuing 4,200,000 industry-recognized national credentials to entering or incumbent workers. Just as industry has driven standards-based national certifications, industry needs to be the principal driver behind their nationwide deployment capable of achieving the ASE level.

Achieving that level of production workforce certification is a high bar, but it is a goal worth pursuing. The Manufacturing Institute-Joyce-Magnet survey quotes an August 2013 Boston Consulting Group “Perspectives” article on this subject that states: “Companies need to do more to cultivate the next generation of skilled manufacturing workers and must work with schools, government, and nonprofits to recruit and train individuals with the knowledge and skills needed to meet the demand.”

The only way to achieve the ASE level is through a robust, industry-led campaign to increase both the demand for, and supply of, industry-certified individuals.

The Next Steps

To build demand manufacturing leaders should take the following zero-cost steps:

1. Select company-preferred national certifications. The NAM-endorsed Skills Certification System and certifications accredited by ANSI under ISO 17024 are good...
guides. ACT and MSSC offer a solid foundation, on top of which companies can add whatever other sector-specific/occupationally specific certifications they or their associations select.

2. Write to the governor in each of the states that have company plants stating that you will grant preferred consideration (e.g., a telephone or face-to-face interview) to individuals with any certifications the company selects. Companies can do this on their company letterhead, or through their state manufacturing association, trade association, or state chamber of commerce.

3. Include this statement in company recruitment policy and distribute it to all company recruiters, including staffing agencies.

4. As a quality-enhancement measure, OEM companies can encourage their suppliers to express their interest in job applicants with industry certifications.

To build supply, manufacturing leaders should take the follow steps:

1. Communicate your company certification policy to technical training providers of your choice—such as community-tech colleges, high schools, and Workforce Investment Boards—in the vicinity of your individual plants.

2. Provide these institutions with information on your industry, company, certification preferences, career pathways, production jobs, wages and benefits, and points of contact for certified individuals seeking employment.

3. Offer workers some incentive to secure industry certifications, most of which can be secured on the worker’s own time. Those incentives could include a job offer for certified applicants (perhaps with a probationary period to receive follow-on company or industry-specific basic training) and tuition assistance, bonus, or raise for incumbent workers.

4. To ensure the quality and currency of national industry certifications, work with your preferred certification bodies to ensure that their skill standards are current with company needs and support ROI studies to document the effectiveness of certifications in enhancing workforce performance.

U.S. industry implementation of industry certifications would document America’s claim to having the world’s highest skilled, and most productive and innovative workforce. This would both strengthen U.S. global competitiveness and attract foreign direct investment. It would also, at last, close the pernicious “skills gap.”

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