

PROFESSIONAL DEVELOPMENT

Training and Educating a Skilled Manufacturing Workforce

Irvin Varkonyi, CSCP, PLog, *President, Supply Chain Operations Preparedness Education*
ivarkonyi@scopedu.com

LEARNING OBJECTIVES

1. “Skills for America’s Future” brings collaboration between industry and government focused on growing manufacturing by enhancing workforce skills in the US.
2. Workforce training and education is a key metric to assess states and countries’ success at job development.
3. Corporate training resources increasingly focus on cost efficient technology allowing savings in training expenditures while providing more training.

Our nation’s economy depends on natural resources, technological innovation, and a skilled workforce. The mix of these components is constantly changing. The skills needed by our workforce must adapt to this changing mix, as well to global forces that alter the demand for and the supply of skills in the modern economy. How well are we doing? Examining initiatives by government and the private sector indicate that we have mixed results. Yet we are uncertain that our future economic welfare will depend on the optimization of human capital’s productivity.

While agonizingly high employment commands much attention today, the shortage of a skilled manufacturing workforce is not as clearly understood, yet it has contributed in part to the steady decline of this sector. From a high of 39 percent of all jobs during WWII, manufacturing employment fell below 10 percent of the workforce shortly before the Presidential election of 2008.¹ Total manufacturing employment reached a high of nearly 20 million jobs in 1980, but it has continuously fallen. Less than 12 million manufacturing jobs were recorded in 2009, the lowest total since the end of WWII.

SKILLS FOR AMERICA’S FUTURE

A current Federal Government/Industry initiative, titled “Skills for America’s Future,” seeks to remedy the loss of manu-

facturing jobs by rebuilding a skilled workforce. It is focusing on utilization of the nation’s community colleges to provide and facilitate training and education. “. . . It is an industry-led initiative to dramatically improve industry partnerships with community colleges and build a nation-wide network to maximize workforce development strategies, job training programs, and job placements.”²

A key component of the initiative is to highlight the need for a standardized credentialing system that manufacturing firms will recognize as useful in preparation for unfilled jobs, stated President Obama when he spoke on the campus of Northern Virginia Community College earlier this year. The “Skills” initiative is being coordinated by the Manufacturing Institute, an arm of the National Association of Manufacturers, in collaboration with a variety of institutions to develop a credentialing system. A variety of associations have developed credentialing systems that target their members, some in narrow fields and some with broad industry applications.

The key partnerships engaged by “Skills” include Motorola, Pritzker Realty, Discovery Communications, and the American Association of Community Colleges. More information is available at www.skillsforamericasfuture.org.

A recently released report by the President’s Council of Advisors on Science and Technology provided specific recommendations in areas of greatest weaknesses in advanced manufacturing.³ “We strongly believe that the nation requires a coherent innovation policy to ensure US leadership support of new technologies and approaches and to provide the basis for high-quality jobs for Americans in the manufacturing sector.” The report advocated creating a fertile environment for innovation through tax and business policy, robust support for basic research, and training and education of a high skilled workforce. Part of the solution to enlarge a skilled workforce was to expand the

supply of highly skilled foreign workers because of insufficient American skilled workers. Thus, as stated earlier in this article there is demand for skilled workers in the US but an insufficient supply.⁴

Skills for America’s Future is also working at the high school level to reach our future workforce. The industry partnership is reaching out to 3500 high schools and 200 colleges to implement the manufacturing credentialing system. A new website, Pipeline, at www.futuresinc.com will offer online resources with real time data and job openings and information on the additional education required for these jobs.

More than \$2 billion is being committed to help community colleges train students and workers under the Health Care and Education Reconciliation Act. It focuses on the capacity of community colleges to develop, upgrade, and offer programs that result in skills, degrees, and industry-recognized credentials that are relevant to high-skill industries such as manufacturing, says the White House.⁵

WORKFORCE TRAINING IN THE STATES

The US Chamber of Commerce and the National Chamber Foundation have produced an assessment ranking states in their ability to generate jobs, in a variety of industries. A key to job creation has been workforce training and education. The chamber offered rankings of the states based on affordability of education, job placement support, high school graduation rates, and employer driven training programs. The top ten states were:⁶

- 1 Florida
- 2 Massachusetts
- 3 New York
- 4 Maryland
- 5 North Dakota
- 6 Minnesota
- 7 Colorado
- 8 New Hampshire
- 9 Utah
- 10 Connecticut

Among the shared characteristics of these and other successful states is their focus on STEM (Science, Technology, Engineering, and Mathematics) jobs. Many of our smaller states have focused on growth in STEM jobs because of the multiplier economic effect of these jobs. Growth of STEM jobs in North Dakota was 26 percent in the past decade, but the nation as a whole increased STEM jobs by only 2.6 percent during the same period. This discussion in creating a skilled workforce must therefore reach across many fields from complex engineering to complex manufacturing.

CORPORATE RESOURCE CONSTRAINTS

Finally, how constrained are corporate training budgets? Chief Learning Officer (CLO) magazine surveys its members on how responsibility is accepted by companies to provide professional development and training. Costs are compared between internal training programs or the use of external institutions. CLO also surveys their readers' opinions on professional development from a non-expenditure

perspective such as substituting e-training for in class programs. E-training can produce extraordinary savings because of the rapid evolution of technology tools, such as online training. Thus dollars spent by companies are not necessarily a key indicator of their commitment to professional development. Spending a lot is good, not spending as much as in the past is not good and is not a reliable metric. Rather, evaluating a company's training program's range of opportunities offered employees to enhance their skill sets is more useful. Spending dollars wisely is a better metric.

Will Skills for America's Future, along with its partners, spend dollars wisely? That will depend. We have the capacity to train our workforce through traditional and non-traditional means. Commitments to support workforce training must be made by a variety of stakeholders in the public and private sectors. Our workforce must also become committed to gaining and maintain skills in a global economy and the knowledge to participate in a resurgent manufacturing environment. *DTJ*

continued from page 4

The A-35 Vision is to be an active component of NDTA providing opportunities and developing tomorrow's leaders. The benefits to you are:

- Networking with industry leaders
- Scholarship opportunities
- Mentor programs
- Educational programs
- Professional development
- Job referral assistance
- Leadership opportunities
- Community involvement

The greatest benefit from NDTA's A-35 committee is the return from active participation. As one A-35er put it, "Get involved! Like so many things, NDTA fits into the 'reap what you sow' rule of life. There may be organizations more specific to your career field or job description, but because NDTA covers such a broad range of logistics specialties, your opportunities are greater and your horizons are much broader. You'll understand the big picture of how you contribute to National Defense." *DTJ*

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With more than 18 years of transportation and logistics management experience, Batchelor represents the caliber of AMU faculty and its commitment to blending academic quality with real-world application. Batchelor serves as vice president of an award-winning firm and is passionate about teaching students the cutting-edge technology and methods that are driving industry today.

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