

Issue BRIEF

Closing the Skills Gap: Michigan's M-CAM Experience



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ABOUT THIS PROJECT

The lessons in this brief are drawn from Social Policy Research Associates' (SPR's) evaluation of the Michigan Coalition for Advanced Manufacturing (M-CAM) TAACCCT grant. M-CAM is a coalition of eight community colleges in Michigan that used grant funds to strengthen four career pathways—Welding/Fabrication, Production, Multi-Skilled/Mechatronics, and CNC Machining.



ABOUT THE TAACCCT GRANTS

The Trade Adjustment Assistance Community College and Career Training (TAACCCT) grants were funded by the U.S. Department of Labor, Employment and Training Administration. TAACCCT funding assists community colleges in expanding and improving training programs that can be completed in two years or less for high-demand, high-skilled occupations.

“There is very high demand [for skilled workers] and very few candidates out there. They are very difficult to find. The better ones have moved out of state or are currently working, so it’s difficult to find those skills for any technical positions.” —Advanced manufacturing employer in Michigan

Advanced manufacturing employers commonly say that they cannot find candidates with the level of training needed to fill the jobs that are available, and worry that this will limit economic growth. The Manufacturing Institute estimates that 3.5 million U.S. manufacturing jobs will open over the next decade but that the “skills gap” will leave two million of those jobs vacant: they attribute the gap to an array of factors, including baby boomer retirements, the ways that automation and technology are transforming the manufacturing industry, the lack of technical education in high schools, negative perceptions of manufacturing as a career, and competition for more highly trained workers.ⁱ

Not all economists, however, believe that there is a skills gap. One of the fundamental arguments against the existence of a skills gap is that wages have been stagnant. Many economists believe that if employers truly valued higher skilled workers, then they would raise their wages to attract the talent they claim is needed.ⁱⁱ These economists argue that instead of a “skills gap” there is a “compensation gap.” Indeed, when compared to other industries, manufacturing has one of the largest gaps between labor productivity and compensation.ⁱⁱⁱ

Our research suggests that the shortage of manufacturing workers is due to a complex interplay of factors, including both a gap in skills and a reluctance on the part of manufacturing employers to increase compensation. Community colleges are uniquely positioned to address these challenges given their integral role in strengthening pathways into advanced manufacturing, upskilling the current manufacturing labor force, and educating employers about competitive wages and what students are looking for in a job.

This brief draws on data from eight community colleges in Michigan that participated in the Michigan Coalition for Advanced Manufacturing (M-CAM) from 2014 to 2017 to highlight factors that contribute to the shortage of qualified manufacturing workers as well as strategies that the colleges and employers used to address the shortage.

WHAT WE LEARNED

- Strong partnerships between employers and colleges can help colleges to better meet the needs of employers, while also contributing to significantly better employment outcomes for students.
- Colleges benefit from having dedicated job developers or liaisons who can coordinate closely with employers.
- Colleges are coordinating with a variety of partners, including employers, economic development agencies, state workforce agencies, and K-12 educators to strengthen the pipeline into advanced manufacturing programs and to change the public perception of manufacturing careers.
- If employers are going to close the skills gap, they need to continue investing in training programs and talent development. It is also essential that they offer competitive starting wages.

Employer Perspectives

Advanced manufacturing employers whom we interviewed universally identified the skills gap as an issue that interfered with and slowed their growth. Employers said that the increase in the use of robotics and technology in advanced manufacturing has reshaped the skill sets required of workers and that this trend is likely to accelerate in the years to come. Specifically, many employers are having trouble finding candidates with the math, programming, and problem-solving skills needed to keep assembly lines and manufacturing equipment running smoothly. Other employers said that candidates lack the soft skills or personal attributes needed to succeed in the workplace, such as dependability, punctuality, communication, and conflict resolution skills.

“The auto industry in the United States has gone through profound changes over the last two decades. It has gone through the shrinkage of employment in the industry, particularly of nonskilled or unskilled workers, at the same time that it has experienced an increase in the need for creative and technical skills.”

- College president

Another reason employers cite for the skills gap is the lack of pipeline programs in high schools and a reluctance on the part of high school advisors to steer students towards vocational career pathways. One employer said that “the people that have the aptitude to go into these programs are all being told to go into four-year degree programs, in engineering or liberal arts.” Employers view this as a disservice to students, given that not all students are well suited to a more traditional four-year college career path and that the wages available in some manufacturing occupations are highly competitive.

Finally, employers felt that to attract younger workers, they needed to overcome the stigma associated with manufacturing. They felt that there is a perception, particularly among millennials, that manufacturing is physically demanding, “dirty,” and that the jobs are unstable. They also felt that they needed to shift attitudes among parents of millennials, who, they believed, discourage young people from going into the industry.

Closing the Gap

The very low unemployment rate and their need to find qualified workers in Michigan incentivized employers to partner with colleges over the life of the M-CAM grant. Because employers needed workers, they were ready to collaborate with the colleges to select equipment, consult on curricula, and participate in job readiness and placement activities. Similarly, in some areas, employers were willing to collaborate with the colleges to create customized training programs and apprenticeships and to offer work-based learning opportunities (e.g., facility tours, internships, etc.) as a way of attracting talent. The eagerness of employers to partner with the colleges, investing their time and energy into shaping manufacturing training programs, speaks to the value that they saw in that investment.

At the same time, the grant helped to fund job placement and development staff at the colleges, who filled a vital need by serving as a single point of contact for employers looking to interface and work with the industrial trade programs. Although the directors of workforce divisions at colleges frequently have a great deal of contact with employers, they are often too busy to respond quickly to employer requests. In contrast, the specialized job developers were able to proactively and continuously interface with employers, something which was highly valued by the employers that we interviewed. Job developers also helped to educate employers about the training programs at the colleges and coordinated job fairs, interview days, and job shadowing.

"I don't hear manufacturers anymore saying that the colleges are not developing the right type of people, or the curriculum is off or doesn't line up with the occupation. ... The community colleges have been very responsive, and have listened to employers [and] other talent needs, and have aligned their curriculums and programs to deliver that."

- Employer association representative

Over the course of grant implementation, the colleges increased the number of employer connections and the depth of their employer partnerships. The M-CAM colleges nearly doubled their number of employer partners over the course of grant implementation (from 204 to 392). In addition to engaging employers in selecting equipment and designing curriculum, the college staff worked with their partners to address the skills gap in the following ways.

- ***Enhancing pipeline programs at middle and high schools and strengthening pathways to college trade programs.*** Colleges and their partners worked with middle and high schools to begin rebuilding vocational training classes in advanced manufacturing. College staff and employers reported that there is an increased interest trade classes at the high school level, particularly as apprenticeship models expand.
- ***Working to shift the perception of manufacturing as a career among parents and students.*** Many different stakeholders in Michigan are committed to dispelling the notion that manufacturing careers are "dirty," "repetitive," or highly physical. The colleges are coordinating closely with employers and high schools to put on "manufacturing days" that orient parents and students to careers in advanced manufacturing. For instance, Grand Rapids Community College used their grant to purchase a trailer equipped with 3-D printers, virtual welders, and other hands-on opportunities, which was used by the college to expose the community, including middle and high school students, to advanced manufacturing occupations.
- ***Providing "on-ramp" or "bridge" programs into manufacturing.*** As part of M-CAM, some colleges created entry-level Production Operations programs focused on providing an overview of what manufacturing work involves and covering established practices for managing safety, quality, and efficiency in different types of production processes. The colleges viewed these programs as "feeder programs" leading into the core career pathways and exposing students to different occupations and training options in advanced manufacturing. "[It] helped me get my foot in the door for college," said one student.
- ***Providing targeted training for incumbent workers so they could move to higher-level positions.*** Slightly over 50 percent of M-CAM students were incumbent workers. Many of these workers were looking to quickly upgrade their skills so they could move to higher-level jobs. One employed student said, "I come from a manufacturing background with 14 years' experience. I took the program because I was told it would be helpful for entry-level supervisors, which I feel is the next move in my career."
- ***Integrating basic skills, "soft skills," and job search training into manufacturing training programs.*** In response to employer feedback, the colleges integrated a stronger focus on nontechnical skills (such as workplace etiquette and conflict management) into their training programs, to better prepare students for the realities of the workplace. They also helped students develop resumes, coached them on the job application process and on using platforms such as linked-in, conducted mock interviews, and sought to help students advance along their education pathways and successfully enter employment.

- *Educating employers about the need to raise wages to attract talent.* Finally, colleges sought to raise employers' awareness of wages in competing fields. Near the end of the evaluation, some employers were increasing wages in an effort to be more competitive and wages across the state were inching upward.

These coordinated strategies implemented by the colleges not only worked for employers, they made a difference for students as well. M-CAM students had significantly higher employment rates and higher earnings than those in comparison groups of study at the same colleges, even after adjusting for differences between groups in baseline characteristics.^{iv}

Implications

- *M-CAM is an example of the value of regionally based, sector-specific partnerships between community colleges and employers.* These types of partnerships, which are being further promoted by the Workforce Investment and Opportunities Act (WIOA), benefit colleges, employers, and ultimately students. Employer engagement in M-CAM helped to ensure that the training the colleges were providing aligned with local labor market demand and increased student readiness for jobs in ways that enhanced their employment prospects.
- *Students and employers benefit when colleges have staff who are dedicated to interfacing with employers.* The job developers funded by M-CAM helped to better connect employers to colleges and to better prepare students for careers in advanced manufacturing.
- *Closing the “compensation gap,” by increasing starting wages, is a key priority if employers hope to close the skills gap.* If manufacturing employers expect to find “skilled” labor, then it is essential that they offer entry-level wages commensurate to or above those of competing industries.

About This Series

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ⁱ Craig Giffi, Ben Dollar, Michelle Drew, Jennifer McNelly, Gardner Carrick, and Bharah Gangula, “The Skills Gap in U.S. Manufacturing: 2015 and Beyond,” Manufacturing Institute and Deloitte, 2015.

ⁱⁱ See, for example, Catherine Gewertz, “Is There Really a Skills Gap?” *Education Weekly* 36, no. 37 (July 2017): 8; Jesse Rothstein, “The Labor Market Four Years into the Crisis: Assessing Structural Implications,” *Industrial and Labor Relations Review* 65, no. 3 (2012): 467–500; Paul Osterman and Andrew Weaver, “Why Claims of Skills Shortages in Manufacturing Are Overblown,” Economic Policy Institute, Issue Brief 376, March 26, 2014.

ⁱⁱⁱ Michael Brill, Corey Holman, Chris Morris, Ronjoy Raichoudhary, and Noah Yosif, “Understanding the Labor Productivity and Compensation Gap,” in “Productivity,” special issue, *Beyond the Numbers* 6, no. 6 (U.S. Bureau of Labor Statistics, June 2017). As the unemployment rate in Michigan slipped to under 4 percent in the summer of 2017, there were some signs that wages were increasing. The 3.1 percent rate of wage growth in Michigan was higher than the national average of 2.9 percent, but it was still lower than the growth target of 3.5 to 4 percent that economists see as an indicator of “full employment.”

^{iv} For more detailed findings on the impact of M-CAM, see the M-CAM Final Evaluation Report at www.spra.com.

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