
Competency Models In Action:

Competency-Based Credentials Championed by Community Colleges

July 2013

- Massachusetts community colleges collaborate to offer accelerated training tied to industry needs
- Community college curricula aligned with validated industry competencies
- Articulation agreements established between non-credit training providers and community colleges

Introduction

Massachusetts' 15 community colleges have been awarded a \$20 million, three-year grant from the U.S. Department of Labor, Employment and Training Administration (ETA) to implement the Massachusetts Community Colleges and Workforce Development Transformation Agenda (MCCWDTA). The initiative is designed to assist trade-impacted and other eligible residents of the state to attain degrees, certificates and industry-recognized credentials in two years or less. Each community college will offer new or redesigned competency-based certificate programs in one or more of these targeted industry sectors: Healthcare, Biotechnology and Life Sciences, Advanced Manufacturing, Clean Energy/Sustainability, Information Technology and Financial Services.¹ Two of the early products emerging from this collaboration are a customized Advanced Manufacturing Competency Model and an articulation agreement between a non-profit training provider and a member community college.

The Workforce Need

Manufacturers indicate that one main stumbling block to recruiting individuals for manufacturing occupations is that the nature of the work is often perceived as dirty, repetitive and boring – e.g., putting the same part in the same machine all day. Younger people may not recognize that manufacturing is now high tech, well paying, and in need of workers skilled in new industrial technologies.

Concurrently, the supply of qualified manufacturing workers is shrinking. The manufacturing workforce is growing older at a greater rate than the economy as a whole and the U.S. education system is not equipping American students with the right skills and in the right disciplines to contribute to the manufacturing economy. This lack of qualified workers is beginning to impact manufacturers' ability to compete in the global market.² Community colleges and other training institutions are working to address this issue by aligning their manufacturing curricula with industry-informed competencies and educating the public about the evolving nature of the manufacturing industry sector.

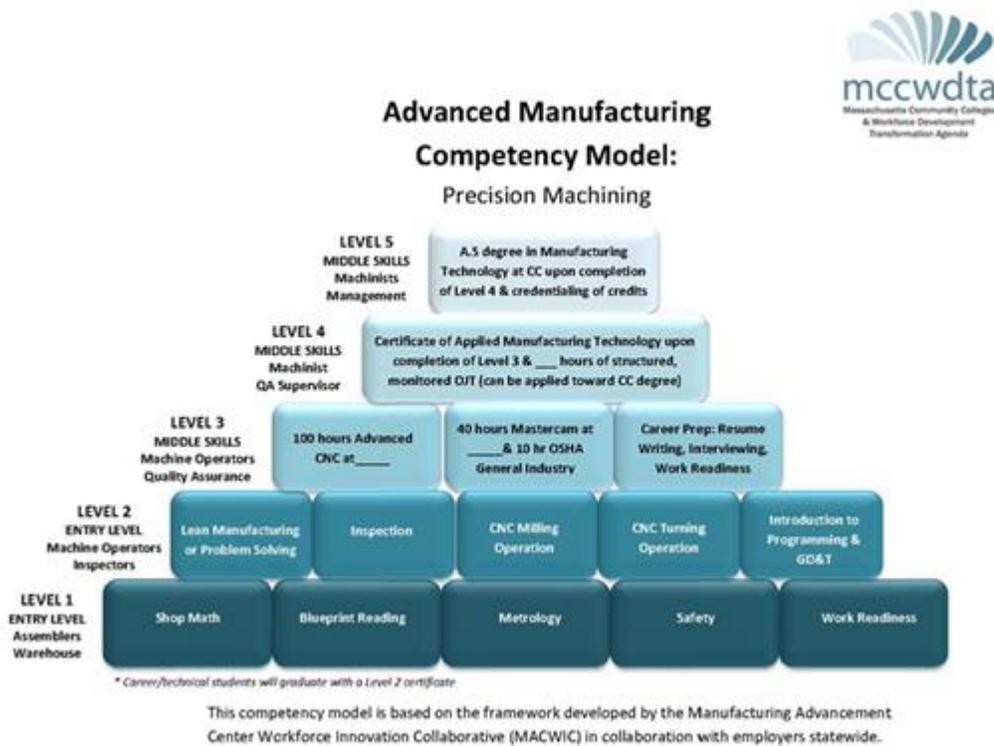
¹ Massachusetts Community Colleges and Workforce Development Transformation Agenda, <http://www.mccwdta.org>

² National Association of Manufacturers, <http://www.nam.org>

MCCWDTA

“Our first step as a consortium is to develop a set of competencies for each targeted industry, the first of which was Advanced Manufacturing,” says Jennifer Freeman, MCCWDTA Project Manager. “We began by looking at ETA’s Advanced Manufacturing Competency Model and comparing it with the competencies that are being taught in manufacturing courses at our community colleges right now. We brought in community college faculty and vocational/technical school educators to identify gaps in curriculum. ETA’s competency model was very useful in helping us to look at different course descriptions to see what ‘bucket’ they fell into. It enabled us to create a common language. With 15 different independent entities, each college has its own course naming process. Through this process we realized that it made sense to adopt the Applied Manufacturing Technology Certification Pathway model that had been developed by the Manufacturing Advancement Center Workforce Innovation Collaborative (MACWIC) in partnership with Quinsigamond Community College prior to the MCCWDTA grant.

Industry involvement in vetting competency models is a critical component of the MCCWDTA initiative. “Our collaboration with the Massachusetts Manufacturing Extension Partnership (MassMEP), and the Advanced Manufacturing Collaborative, an entity chaired by employers and staffed by the state’s economic development agency, proved particularly valuable in affirming that the competency model reflects what manufacturing businesses are looking for in an entry level worker,” says Ms. Freeman.



“We’ve replicated this process in other targeted industry sectors as well, using ETA’s competency models as a starting point in the conversation,” says Ms. Freeman. “In all of our industry sectors, we’re focusing on creating accelerated career pathways. In health care, for example, medical coders can achieve a two-year Health Information Technology degree through a pathway of stackable credentials. As we develop the career pathways, we’re not starting from scratch. We’ve learned that there’s a lot for us to build on, including some excellent work by local Workforce Investment Boards within the state.”

In each area of focus, an industry team of staff and faculty works with industry representatives to identify employer needs. A final product for each of the industry teams is a customized competency model that reflects the content of the programs being developed through the initiative. The colleges plan to create more than 85 new and redesigned degree, certificate and noncredit programs in the six industry fields.

MassMEP

MassMEP is an affiliate of the National Institute of Standards and Technology’s Hollings Manufacturing Extension Partnership, a national network of 59 centers that provide assistance to small and midsize manufacturers. The organization is no stranger to competency models. “We’ve been working with ETA’s Advanced Manufacturing Competency Model for a number of years, starting with a High Growth and Emerging Industry Training grant back in 2005,” says Leslie Parady, MassMEP project manager. “One of the five areas we focus on in a manufacturing firm is workforce development. We offer industry-informed training to new entrants to the manufacturing workforce as well as to incumbent workers.”

MACWIC, with 100 employer and educator/training providers as members, provided valuable feedback to the consortium on the real-life competencies that employers seek in their employees. “We are in manufacturers’ companies every day, all day. We hear what they need,” says Ms. Parady.

MassMEP has also developed a Manufacturing Skills Academy Network for incumbent workers. This training breaks the MACWIC competency model into smaller “chunks” so that smaller manufacturers do not lose productivity while their workers are trained. Over 70% of Massachusetts manufacturing companies have fewer than 20 employees.

Quinsigamond Community College (QCC)

“ETA’s competency models are a comprehensive one stop source for us,” says Kathleen Rentsch, Dean, Business & Technology, QCC. “We use them when we do our program reviews as a framework to calibrate where our curricula are now and what will be happening in three to five years. We’ve utilized a number of ETA’s models to conduct this assessment: Advanced Manufacturing, Entrepreneurship, Mechatronics, Transportation, Information Technology and Hospitality/Hotel & Lodging. We will be using the Health: Electronic Health Records model in the future as we develop curricula in that sector.”

Recently, QCC and MassMEP analyzed their respective Manufacturing Technology curricula in an effort to better align their Student Learning Outcomes so that college credit could be

awarded for the MassMEP training courses. This process took six to nine months since the outcomes between the curricula had to be matched very carefully. QCC's goal is to work closely with industry partners, recognizing that education and training do not have to fit the traditional mode if there are the same learning outcomes grounded on a common industry-informed competency-based framework. "QCC credentialed 26 credits with the combination of classroom-based training and intensive on-the-job training offered through the MassMEP program," says Ms. Rentsch. "This is only a few credits short of the first year curriculum for an A.A.S. degree in Manufacturing Technology at QCC. Now, students who complete the MassMEP program can enter the college for the remaining coursework, which is nearly 100% online. We've held multiple joint recruitment sessions with the goal of enrolling our first cohort of students in fall 2013."

"We need to make employers more aware of the value of competency models and encourage them to use similar language in wording job descriptions and in compensating employees for skills," says Ms. Rentsch. "Educators know about competency models and industry skill standards, but employers often do not. It is so important that the entire system use similar language when it comes to education and training and that employers recognize the value of industry-informed credentials."

Conclusion

Through MCCWDTA, community colleges are changing the way they work with each other and with agencies of the workforce development system, government officials and employers. Together, they are transforming education and training programs to build greater economic opportunities for residents of the commonwealth.

Related Links

Massachusetts Community Colleges & Workforce Development Transformation Agenda
<http://www.mccwdta.org/partnerships-initiatives/redesigning-community-college-education-and-training>

Massachusetts Manufacturing Extension Partnership
<http://www.massmep.org/>

Quinsigamond Community College
<http://www.qcc.edu/>