
Competency Models In Action:

Job-Specific Manufacturing Competency Models Developed by Industry Training Provider

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- ETA's Advanced Manufacturing Competency Model Spurs Initiative
- Industry and Educators Collaborate on the Development of Job-Specific Competency Models for Manufacturing
- Models Provide the Conceptual Framework for Employee Development and Evaluation

Introduction

Tooling U-SME, an industry leader in manufacturing training, used ETA's Advanced Manufacturing Competency Model as a starting point in developing customized, "shop-floor driven" individual competency models for specific manufacturing jobs. That model was developed and updated in close partnership with the National Association of Manufacturers' Manufacturing Institute (NAM/MI) which is the champion for this model. "The Advanced Manufacturing Competency Model provides a level of manufacturing awareness, but for our customers' purposes it didn't go deep enough into specific job tasks that are very hard to evaluate," says John Hindman, Manager, Professional Services, Tooling U-SME. "We took the next step by developing job-based competency models that identify the specific knowledge and skills required for a broad spectrum of manufacturing occupations."

The Workforce Need

"The way the manufacturing industry is going to survive going forward is to develop competency-based programs that bring standardization and validation to the development and evaluation of unskilled workers," says Mr. Hindman. "In five to ten years, the last of the baby boomers will retire from the manufacturing workforce. Right now, there are very few people in the manufacturing workforce in two key demographic cohorts: those with 20 or more years of experience and those with less than five years of experience. Manufacturing companies have to make the right moves now by adopting a standardized competency-based framework to develop their future workforce."

In addition, the implementation of a competency model can add much needed validation for incumbent worker job progression in terms of their career development through an organization. "Organizational development tools such as this model will add structure and definition to employee job competence and enable companies to meet increasing demand for training record audits required by government agencies and external customers," says Mr. Hindman. "Basically, companies will be able to say, 'Yes, our workers are qualified for their role in the company and are meeting expected performance levels.'"

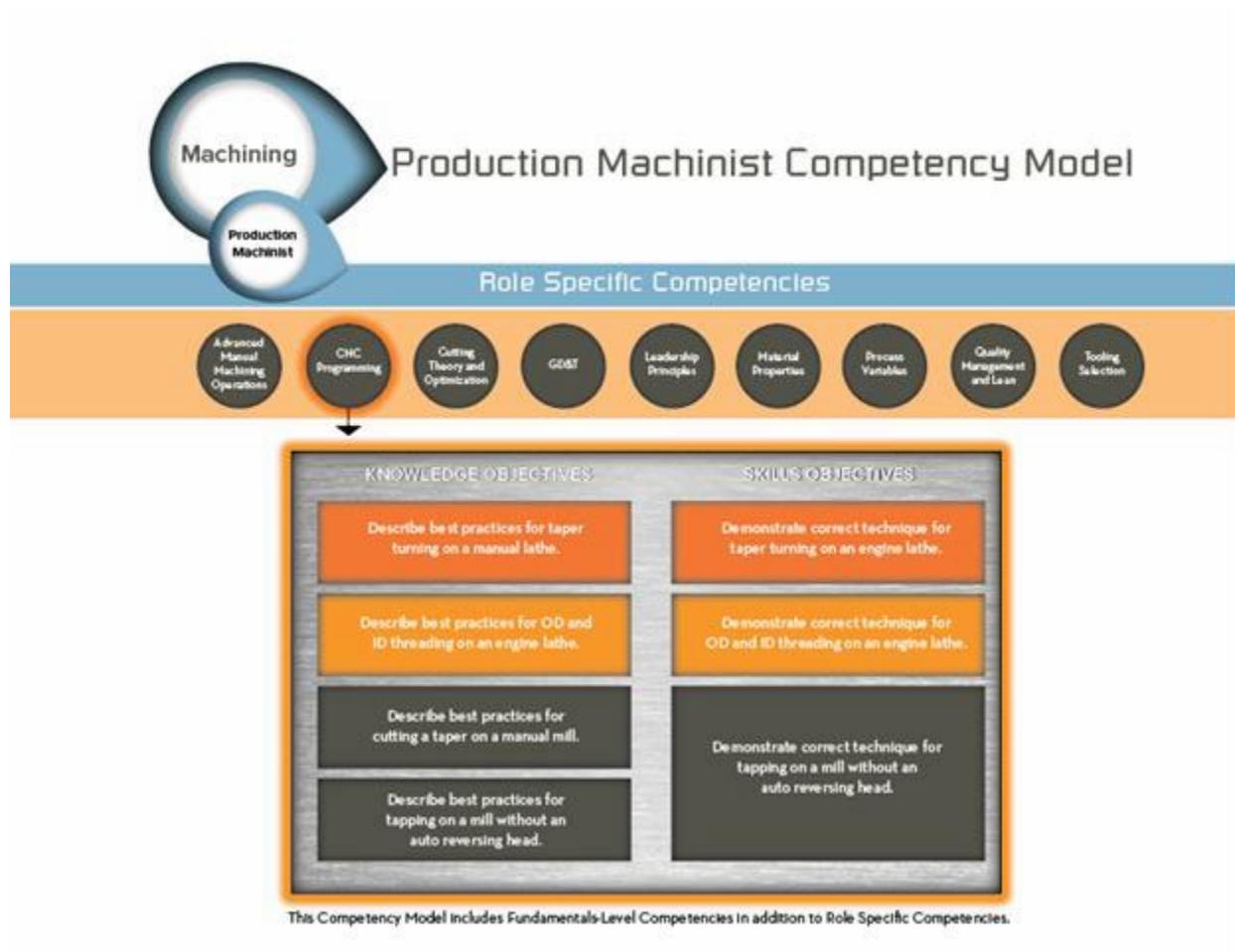
How They Did It

In 2011, Tooling U-SME started this initiative with a steering committee composed of major manufacturing employers and academic institutions involved in preparing individuals for manufacturing occupations. The members of the original committee were American Axle, Autoform, Boeing, Gonzaga University, GP Allied, Industrial Metal Supply, Lincoln Electric, Miyachi Unitek, Ogden-Weber Applied Technology College, Okuma, NCATC and Northrop Grumman.

The steering committee identified nine broad manufacturing functional areas. Each functional area had its own working group of subject matter experts. “Tooling U-SME undertook an intensive job task analysis to identify the knowledge and skills required for individual occupations,” says Mr. Hindman. “We met with the subject matter experts. We gathered documentation. We shadowed employees on the job. We conducted interviews with management.”

This intensive effort resulted in the development of over 60 individual job competency models that provide a framework for companies to develop job descriptions and career pathways. This framework can be used directly by manufacturing companies or can be customized by the individual organization to meet specific processes and standard work. The graphics below delineate the nine functional areas and the individual job competency model for the Production Machinist occupation.





Conclusion

“The steering committee, which meets on a quarterly basis, regularly reviews these competency models,” says Mr. Hindman. “There is an ongoing evaluation process to determine if the identified competencies are still relevant to the individual occupations. We don’t want the speed of change in the manufacturing industry to overtake our competency models.”

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