



Exploring Competencies for Manufacturing Education Partnership (MEP) Centers

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Project Background

This project is part of a 3-year grant funded by the U.S. Department of Commerce, specifically, the National Institute of Standards and Technology's (NIST) Hollings Manufacturing Extension Partnership (MEP).

The National Institute of Standards and Technology's Hollings Manufacturing Extension Partnership (MEP) works with small and mid-sized U.S. manufacturers to help them create and retain jobs, increase profits, and save time and money. The nationwide network provides a variety of services, from innovation strategies to process improvements to green manufacturing. MEP also works with partners at the state and federal levels on programs that put manufacturers in position to develop new customers, expand into new markets and create new products.

MEP field staff has over 1,400 technical experts – located in every state – serving as business advisors, focused on solving manufacturers' challenges and identifying opportunities for growth. MEP serves an essential role sustaining and growing America's manufacturing base. The program assists manufacturers to achieving new sales, leading to higher tax receipts and new sustainable jobs in the high paying advanced manufacturing sector.

Problem Statement

In 2008, MEP leadership laid out a new vision called the Next Generation Strategy aimed to direct activities at U.S. U.S. manufacturers continue to struggle with a changing landscape that includes consistent pressures to cut costs, improve quality, meet environmental and international standards, and get to market faster with new and improved products.

The MEP Next Generation strategy presents a framework for Centers to help manufacturers address five key critical areas in context. These areas are continuous improvement, technology acceleration, supplier development, sustainability, and workforce. This presentation is based on research in process to help MEP center staff move toward a more holistic and integrated approach in their work.

The Next Generation Strategy (NGS)



Over its 20-year history, MEP helped thousands of companies reinvest in themselves through process improvement and business growth initiatives leading to more sales, new markets, and the adoption of technology to deliver new products and services.

But, manufacturers in the United States are facing significant challenges. There is a constant pressure to cut costs, improve quality, meet environmental and international standards, and get to market faster with new and improved products, all in a larger, more competitive, global playing field.

NIST/MEP realizes the need expand the capacity and capabilities of the MEP nationwide network to address the challenges facing manufacturers. As a result, it has adopted a new strategic vision for its Centers.

The new vision requires that MEP Consultants work with partners throughout the network to provide the tools, services and connections focused on the five key areas of the framework: continuous improvement, technology acceleration, supply chain, sustainability, and workforce.

MEP Consultant Competencies

One foundation to facilitation of this change is to understand the current and desired competencies of MEP center staff. The gap between these two sets of competencies is then considered the area of professional development focus.

Desired Competencies

Current Competencies



Research Questions

In order to compile uncover the gap between existing and desired competencies for MEP field consultants, the research team is guided by the following questions:

1. What does the literature say are important skills and knowledge for the types of work done by MEP field consultants?
2. What are the skills and knowledge currently used by MEP field consultants?
3. What are the skills and knowledge that MEP field consultants believe they need to possess?
4. What are the skills and knowledge that NIST/MEP leadership (both national and local) believe that MEP field consultants need to possess?

"I learned not to rely solely on benchmarking external entities to determine best practices. Sometimes there are other internal sites or departments that are performing similar tasks at a higher level."

"If you find out a potential or actual root cause is due to "method" issues, part of the solution will probably be to do a performance assessment, which can lead to standardized work."

Literature Review

Despite the critical nature of measuring performance in our field in industry, dearth of empirical research on formulated competencies for performance improvement (Dean, 1999; Guerra 2003)

Inconsistencies emerge between perceived need and current practice- suggesting there are obstacles preventing application of required competencies (Guerra-Lopez, 2003)

Development of performance models based on self-assessed competency models will bridge best practices, unique accomplishments, and performance accountability. (Robins & Robinson, 2008)

MEP Center Director Interviews

MEP Field Consultant Competency Survey

Meta Analysis of Performance Improvement Competencies Skills /Knowledge for Performance Consultant Instrument IES Competencies

Skills and Knowledge for Successful Performance Consulting

On the following pages are lists of skill and knowledge items identified as important to being a successful performance consultant. You are going to be asked to rate two aspects for each item: (1) the importance of the item to your current work as an MEP professional, and (2) your current proficiency in the skill or knowledge. Your participation in this survey serves two main purposes. First, it will be used to help the MEP establish skills and knowledge needed to successfully perform the role of an MEP professional. Second, it will be used to identify areas where further professional development opportunities are needed. Your participation in this survey is voluntary and you may stop at any time without any adverse consequences. In addition, your responses are completely confidential. Upon completion of data collection, any identifying information will be removed from the data and all reporting of this data will be done in aggregate. Thank you for your participation.

Performance Consulting Knowledge

1. Following is a list of knowledge items identified as important to being a successful performance consultant. For each item assess two things:

The IMPORTANCE of this knowledge to YOUR WORK

- 1 = Not required for your work at this time.
- 2 = Nice to have, meaning it is helpful, but not required.
- 3 = Required, meaning the knowledge is something you are expected to know as a part of your work.

Your CURRENT KNOWLEDGE LEVEL in this item

- 1 = No knowledge Level. You have no knowledge of this item.
- 2 = Basic Knowledge Level. You have knowledge about this item and can apply it in routine situations, but need assistance at times to do so.
- 3 = Adequate Knowledge Level. You have knowledge about this item and can apply it in routine situations without assistance; you need assistance in non-routine situations.
- 4 = Proficient Knowledge Level. You have knowledge about this item and can apply it in routine and nonroutine situations without assistance.

Knowledge of the Client's strategic plan and initiatives implemented to support it (includes knowledge of the strategic planning process)
 Knowledge of the Client's core processes used to fulfill the organization's mission and desired results (i.e., sales and marketing process, manufacturing process, order fulfillment process)
 Knowledge of the Client's organizational values and cultural norms (both espoused and actual)
 Knowledge of the marketplace within which the Client organization operates
 Knowledge of the other organizations that are "key players" in the Client's market
 Knowledge of how the Client organization differentiates itself from others in the same industry
 Knowledge of the primary market segments that are sources for the Client's current and future customers
 Knowledge of the financial and nonfinancial benchmarks for organizations in the same industry as the Client (for comparison)
 Knowledge of the global factors that influence the Client industry
 Knowledge of competency models
 Knowledge of how to identify competencies
 Knowledge of competency mapping techniques
 Knowledge of the relationship between performance management, training and development systems
 Knowledge of training and development theories and techniques
 Knowledge of how audience characteristics impact the training design
 Knowledge of varying learning styles

Sample section of MEP Survey

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