

## *Manufacturing*

# Holistic Student Professional Development in a Lean Manufacturing Course

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**Need:** Competency expectations have increased significantly across all sectors of the economy, and the impetus to prepare students for these workplace expectations has never been greater. The manufacturing workforce has become more skilled, and educators need to ensure that we continue to provide workers with the right skills to keep pace with the increasing demands of the productivity-oriented manufacturing sector. The human capital challenge created by the paradigm of lean manufacturing requires a workforce with increased numeracy, team building, and problem solving abilities (Manufacturing Institute, 2009).

**Overview:** This presentation will focus on a holistic student development approach through competency-based assessment and backwards design. An undergraduate lean manufacturing course was utilized as the backdrop in this pursuit. The 360-feedback process was introduced as the foundation for competency-based assessments. The "holistic" student professional development will be expounded through course competency selection and assessment.

**Major Points:**

- Competency-based course design
- Exploration of "holistic" student professional
- Competency-based assessments and the 360-degree feedback process
- Results of competency-based assessments
- Implications for workforce professional preparation and future research

**Summary:** The audience will understand the need for a "holistic" student professional development approach using competency-assessment and backwards design. Specifically, the course design and approach can help provide U.S. manufacturers with the employees they need in order to implement and sustain a lean manufacturing structure vital for competitiveness.