Warning: Vocational Classes Falling Out of Favor
Decline in Technical Education a Serious Threat to U.S. Manufacturing Capabilities

How can we continue to ignore the decline of one of the fundamentals of our society: Manufacturing generates wealth? Since 1999, the percentage of U.S. gross domestic product attributed to manufacturing has slid from 16% to 14%. Manufacturing's share of the national income, which was 29% in 1950, declined to 15% in 2000. Manufacturing job loss has been devastating. In an equipment-intensive operation, reliable equipment is a money machine and unreliable equipment is a money pit. Look at the workforce: The lack of job- and equipment-specific skills and knowledge in today's manufacturing workplace is reaching alarming levels. The public vocational-technical training infrastructure is but a shadow of its former grandeur. Here's what others are saying:

"*Companies Repeat Mistake of Cutting Investment in Workers*" (USA Today – The Forum November 4, 2003)

"*Vocational Classes Fall out of Favor*" (Fox News 22 Sept 2004)

"*A Smart Path that Isn't College: The answer might be vocational education*" (USA Today – The Forum January 10, 2005)

"*Going, Going, Gone? Recent Trends in Technology Teacher Education Programs*" (Journal of Technical Education Spring 1997)

"*Education Overlooked in Jobs Debate: New Skills Sets Key to Success*" (US Chamber of Commerce July 2004)

"*Skills Standards Take Aim at Workforce Crisis*" (Managing Automation Magazine)

"*Manufacturing Skills Crisis: Solutions for This National Challenge*" (National Coalition for Advanced Manufacturing report November 2003)

"*Trade Services jobs are Plentiful*" (Dallas Morning News September 7, 2004)

"*Finding fewer and fewer competent workers, manufacturers can control their own destiny and close the skills gap by developing training programs that leverage newer learning technologies.*" (December 2004, Managing Automation Magazine)

"*Baby-boom retirements and new technologies in the manufacturing sector over the next decade will open up millions of jobs in the advanced manufacturing, high-performance manufacturing sector for workers with the 'right skills'.*" (National Coalition for Advanced Manufacturing report November 2003)

"*The only way in which the U.S. can remain competitive over the long term with the low-wage, high-skills countries such as China is to make aggressive use of innovation, technology, and workforce education and training to achieve higher rates of productivity growth and lower unit labor costs.*" (National Coalition for Advanced Manufacturing report, November 2003)

"*Installation, maintenance and repair occupations will add 776,000 jobs, growing by 13.6% between 2002 and 2012. In addition, replacements will be needed for over 1 million jobs. Auto service technicians, mechanics, general maintenance and repair workers will account for more than 40% of the jobs."* (Bureau of Labor Statistics, Occupational Outlook Handbook 2004-2005 Edition)

Now is the time for fast, focused, and sustainable gains in productivity and cost reductions by improving equipment reliability. We must aggressively improve productivity and lower our manufacturing costs. This means that the **entire** organization must make a conscious decision to eliminate waste to reduce manufacturing cost (a "Lean" fundamental). For those of us in maintenance, that means working with the rest of the organization to identify and eliminate the causes of equipment downtime (planned and unplanned), improve equipment efficiency, and eliminate defects while lowering maintenance and operating costs of the business's single largest investment: equipment and facilities.

How? By **first** focusing on the most critical, constraint, high-maintenance-cost, high-downtime-equipment, big return-on-investments that can be had: revenue generated, resources freed-up, productivity increased, and costs reduced. How? Identify the causes of equipment performance and reliability problems. Look for signs that equipment-specific skills and knowledge gaps or highly inefficient work practices that contribute to the problems. The lack of proper operations and maintenance skills and knowledge can result in serious, chronic equipment problems no matter how good your planning and scheduling, preventive maintenance and predictive maintenance processes, CMMS and work orders, no mater how well your MRO parts and supplies are maintained. People cause equipment problems by their actions and their decisions.

Without a robust vocational-technical education and training infrastructure in the U.S., with vocational education falling out of favor, with fewer and fewer young people being encouraged to learn a skill and pursue a career in manufacturing, it is only a matter of time before we lose our manufacturing capability in the U.S. Your company, your plant, your leadership, and your fellow employees can make a difference right now. Train and qualify your employees at all levels to be able to address equipment-specific issues right the first time. Focus your training and qualification efforts on the core skills and equipment specific skills required to keep your most critical equipment running like it's supposed to run, first time, every time. If you don't know how or don't have the time, ask for help from professional industrial educators and trainers. Reliable equipment is the foundation for competitive manufacturing. People with the right skills and knowledge using proven best practices can keep equipment reliable, lowering costs and improving your competitive position. The time is now!

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