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[Home](#)

[About MAC](#)

[The MAC Action
Newsline](#)

[Manufacturing
Our Future
Summit](#)

[Upcoming
Programs](#)

[Resource
Library](#)

[Partners](#)

[Contact Us](#)

[Send a Letter
to the Editor](#)

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From the Desk of Jack Healy

What is Manufacturing?

By Jack Healy, Director, MassMEP

While those of us who work in manufacturing may find that headline strange, this was a common question asked by some of the 946 eighth grade students as they entered the MassMEP's Mobile Training Laboratory during its tour of 13 middle schools in Western Massachusetts in November 2007.

Like it or not, this is not an unusual question, not only for school children, but in the adult community as well, since the manufacturing workforce has continued to decrease and now accounts for less than 10% of total jobs in Massachusetts.



M.O.S.T. Mobile Unit on the road

This lack of knowledge about manufacturing has permeated our school systems, as well as the workplace training system, and has produced a significant lack of critical manufacturing skills. This deficit is especially acute in such traditional vocational school training venues as "machining" and has reached the point where our basic industries that require precision machining are one generation away from being extinct.

Some efforts have been undertaken to address this problem, such as the Manufacturing Extension Partnership System's **Machining Operator Skills Training** (M.O.S.T.) program. M.O.S.T. has successfully trained over 300 new candidates and filled training needs through out New England.

The following is a story of one of the M.O.S.T. job participants that illustrates the immediate opportunities for accessing available talent in today's workplace.

Making the M.O.S.T. of an Opportunity

When Miguel Catala walked into the CTWorks office on North Main Street in Hartford, he knew that he needed a change, a new opportunity. But little did he expect to find himself, almost one year later, feeling like one of the family at Stowe Machine Company in Windsor, CT.

A 1996 graduate of Bulkeley High School in Hartford, Miguel was looking for more than what Burger King could offer. Needing a day shift which would allow more time with his son, Miguel inquired about the Machine Operators Skills Training Program, an



Miguel Catala of Stowe Machine and Frank Rio of CONNSTEP

intensive two-week training program sponsored by CONNSTEP, which teaches participants basic CNC drilling and lathe machine operation and matches them with open entry-level positions in local manufacturers. After an interview and basic aptitude testing, where Miguel scored highly, he reported to the M.O.S.T. mobile training center, parked at Kamatics Corporation in Bloomfield.

For two weeks, Miguel and 11 other trainees, most of whom had no previous manufacturing experience, learned the basics of shop math, blueprint reading, and CNC machine operation through both classroom and hands-on lessons. During this time, CONNSTEP worked with Kamatics Corporation, Pegasus Manufacturing, and Stowe Machine Co., Inc., to place these trainees for the follow-on 60-day paid on-the-job training. Miguel was interviewed and after graduating from M.O.S.T., was chosen by Stowe Machine Co., Inc.

Miguel knew that there are good opportunities in aerospace machining, but "honestly, I didn't know what to expect. When I walked into the shop with all of the machines, I thought, wow! This is real now, but is an opportunity I couldn't refuse."

Immediately at the start of the 60-day paid on-the-job training, Miguel was assigned a mentor and job shadowed with a seasoned machinist, John Caldwell. Within the first week, Miguel was able to work hands-on and gained greater confidence in his newly acquired skills. "Miguel has patience and takes the initiative to learn," stated Bob Poulin, Small Parts Supervisor at Stowe Machine. "Miguel is still green, but he is a great listener and a good co-worker. Miguel has all the qualities we look for in an employee."

Miguel successfully completed the on-the-job training and is now a full-time employee with Stowe, and will be celebrating his first

year anniversary on July 1st. Bob Poulin sees a bright future for Miguel, "If he progresses as quickly in the next six months, as he did these past six, we will be thrilled. Miguel is now working the same jobs as some others who have been here for 20 years."

Stowe Machine is providing Miguel, along with their other machine operators, with continuing education training in areas such as blueprint reading, shop math, and GD&T (geometric dimensioning and tolerancing) skills, "We are very supportive of our employees," Judy Boyle, Human Resources Manager adds. "Our positive, receptive environment has contributed to the ease of Miguel's transition."

Knowing that the M.O.S.T. Program provided him with the foundation skills to build a career, Miguel looks forward to coming to work each day, "I am going to see how far this takes me. This is for my future – and for my son's future."

The M.O.S.T. program has amply demonstrated that a collaboration of the Regional Employment Boards and the Manufacturing Extension Systems Partnerships, along with employers who are willing to provide a 60 day on-the-job training program, can successfully meet critical job skill needs on an immediate basis, and provide a bridge to middle class for today's unconnected workforce.

Project Renew

A longer-term approach to meet the skills gap needs has been undertaken by the Regional Employment Board of Hampden County (REB), in collaboration with the Western Mass Chapter of the National Tooling and Machining Association (WMNTMA) and the Massachusetts Manufacturing Extension Partnership (MassMEP).

The REB planned and organized a comprehensive vocational outreach program (Project Renew) to begin filling the school pipeline for careers in manufacturing. Project Renew consisted of *Initial Vocational Outreach Orientation* for eighth grade students that utilized MassMEP's classroom-style Mobile Training Laboratory which was brought on-site at each of 13 middle schools who participate. All of the 946 students selected were broken down into classes of 12, and given a chance for a learning experience that covered 45 minutes of math and physics as well as a vocational presentation to assist the students in their decisions for a high school career track. The only real surprise relative to the initiative was from some mothers of college bound students who complained that their children who were not selected for the Mobile Laboratory training and thus were 'deprived' of the experience.

The *Initial Vocational Outreach Orientation* was followed up with tours of 12 precision

manufacturing companies where 198 interested students, accompanied by teachers and counselors, received extensive tours of the facilities and work, as well as further orientation on the career opportunities offered by this industry.



What subjects do we train children in who will be part of the workforce until 2050

All of the tours were summed up in the words of one teacher who said, "Thank you so much for this experience. The mobile lab tied in so well with this tour today. The tour was fantastic! Charlie did a nice job showing the 18 students the different paths that they can take to get into this career, strongly supporting the Westfield Voke School the kids were excited on the way home and wanted to go to the voke school."

This teacher went on to express concern over the limitations of our current educational system by pointing out, "It's too bad they only take a small number into the manufacturing school at Voke." This highlights society's continued process of promoting and investing in higher education for 30% of the population, while ignoring the needs in the other systems such as vocational training.

Continuing to ignore vocational needs will certainly be a contributor to future questions that will go something like this..."What ever happened to Manufacturing?"

For More Information

The report, ["Into the Eye of the Storm: Assessing the Evidence on Science and Engineering Education, Quality, and Workforce Demand"](#) evaluates the educational pipeline and the purported workforce shortages. Reports are constantly criticizing the current educational system for a lack of training for the fields of Science, Technology, Engineering, and Math. This report assesses that the educational pipelines may be sufficient and that we are lacking the career paths for the graduates.

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