

Introduction and key points by Tim Heaton

1. Manufacturing Employment Data:
 - a. Colorado Added 3,900 manufacturing jobs in the first seven month of 2015.
 - b. 70% were placements for mechanical assemblers/production.
 - c. Second largest percentage was employees in warehouse support/systems.
2. Review of MfgWorksCO.com website, containing information about manufacturing job openings, information on job duties and job outlooks.

Digital Manufacturing Design and Innovation Institute (Dennis Thompson)

1. Overview of workforce development efforts at DMDII. Most people currently in manufacturing key positions are 60+ years of age.
2. DMDII is working on technology integration, specifically creating multi-model interfaces for teaching new employees.
3. New professional development collaborative is being institutes due to 600,000 unfilled jobs nationally (approximately 100,000 digital). This work will take place through local Manufacturing Education Partnerships (MEPs).
4. New Strategic roadmap for DMDII (will include 4 parts):
 - a. Defining Digital Manufacturing
 - i. Taxonomy
 - ii. Though Leadership
 - b. Education
 - i. Creation of Asset map of all digital manufacturing training programs.
 - ii. Digital 101, an online training Massive open Online Course (MOOC) with 5 course areas.
 - iii. Vision Center, immersion training center (McKensey OEP training).
 - iv. Train-the-trainer program with MEPs and Manufacturing Associations.
 - c. Credentials
 - d. Placement- looking at ways to develop placement tools.

Notes from Round Tables

Parent /Student Engagement

1. DPS (MLK HS, Jacquelyn Scales) is focusing on Education of Parents: developing literature and opportunities around developing skillsets applicable to multiple career options. District is breaking down math and science requirements. Messaging internships at Metro State U and School of Mines; Summer Institutes; using student voices (interviews and video media) for momentum and recruitment into career pathway programs. Q: Are you also using former students? Yes, more so in long-established programs.
2. MLK and CEC (Dan Ridgeway) also doing some Joint Business projects with Business having opportunities to engage with parents and students.

3. Employers encourage using former students and younger employees to better connect with students during tours (ex. Salvador at Intertech Plastics is a great ambassador for Tool and Die.)
4. Several districts are using Family Nights; especially STEM associated ones, for inviting parents and middle school students for career exploration (with particular focus on parent engagement.)
5. Englewood—Would love to have more information on the Thrive Statistics for their students and long-term placement information.
6. -Not all schools can get students to businesses for tours but having guest speakers is a great opportunity (I know both Intertech and Reata are connecting with schools to provide some guest speaker opportunities now)
7. -There needs to be opportunities for teachers and counselors to gain understanding of what modern manufacturing careers look like- Cherry Creek is setting up a instructor/counselor field trip to visit manufacturers.

Skill Set/Technical Issues

Employers are reporting difficulty with hiring right skillset for technical and engineering positions. Biggest limiting factor to growth is lack of qualified employees, particularly with skills in math and science, critical thinking and problem solving. Students also need to understand the rapid product cycle within manufacturing. Outlook and earning potential in manufacturing is high and employers need help in knowing how they can better assist the secondary and postsecondary programs.

1. Englewood (Bill Gilmore) is incorporating design process with curriculum and applying the process to develop products; each student can develop a portfolio. Currently, they have virtual job shadow and need more opportunities to visit shop floors.
2. DPS is partnering with Intertech Plastics (Ez Gadson in DPS Pathways) for OEE metrics (efficiency metrics) and modeling/molding processes. DPs also developing additional internships with various companies.
3. CEC reported that students need to take better records (using industry standards) for recording process/progress/results during projects.
4. QEP (oil and gas) reported that during their student tours the teach advises the company of what the students are learning in their program and that way employees giving the tours can tailor the information to tie into the program objectives and this has worked well.
5. Some companies are reporting the ability to pay student stipends for work as an incentive to summer employment. This also allows the company to have an extended interaction period with the student as a pre-screen/evaluation period for future employment.
6. Emily Griffith Technical College- having good success with students participating in work-based projects that have small stipends attached. Have had good success with developing programs with both CCD and metro as part of CHAMP work. New building is operational on Osage St.
7. NFT provided 2 samples of job announcements: machinist and CNC Machinist (potential LEAD). Big focus on CNC, at least 3 axis with 4/5 axis experience being a plus. Also need the following experience/qualities: trouble shooting; selecting appropriate tooling; process, design and building; inspection; and possible supervision or instruction of entry level experience.

8. Discussion about Solidworks potential in digital manufacturing and advance manufacturing versus AutoCAD which is being utilized in the electrical contracting and HVAC industries. Many manufacturers are supportive of the Solidworks program in the school programs.

Specific Workforce Needs

Eagle Claw Fish Hooks:

- 1/3 of their workforce is retiring
- Need machinists.

Reata Engineering and Machine:

- Need engineering and technical machinist
- Lots of jobs available; Pay is good - there is a lot of money to be made in manufacturing career.

InterTech Plastics

- Struggle to find: Process Techs and Machinist
- Students are lacking Science and Math

General Comments:

- **Critical thinking and problem solving are necessary key skills to have in this career**
- **Biggest struggle is finding talent and finding people - challenge is to hire the talent**
- **Application of skills in education programs is important**

Other Announcements

All teachers and CTE Directors are invited to join CAMA at no cost courtesy of a Pinnacol Assurance sponsorship.

Cardboard challenges are taking place at Cherry Creek (October 8th) and also at other districts. 8th Grade career fairs are also coming up in October and employers are encouraged to support the local districts with participation.

1. Adams County's 8th Grade Job Fair is Nov 17th
2. DPS 8th grade Career Fair is Oct 28th.

[Meeting survey link](http://tinyurl.com/advmansummit15) (http://tinyurl.com/advmansummit15)