

NEW Manufacturing Alliance
K-12 OUTREACH TASK FORCE – WEBEX MEETING MINUTES
Friday, April 16, 2021 - 8:30 to 9:30 AM

ATTENDEES: Lynn Aprill-CESA 8, Allyson Baue-NWTC, Candice Boutelle-Inspire Sheboygan County, Joe Brandl-Plymouth HS, Leah Bruess-GBAPS, Amy Charais-LaForce, Kristin Comerford-Appleton Area SD, Danielle Dale-KI, Mike Dietrich-LAB Midwest, Joe Draves-NWTC, Alison Driscoll-LTC, Connie Kais-ATI Forged Products, John Knickerbocker-CESA 8, Tracy Kollock-Miller Electric, Steve Meyer-FVTC, Bobbi Miller-FVWDB, Andy Preissner-Heartland Label Printers, Armin Rashvand-MPTC, Sheila Schetter-LTC, Christina Stelter-Menasha Corp., Samuel Temple-The Geo Group, Mike Trimberger-Random Lake School District, Anne Troka-Sargento, Laura Warning-Wolf River Schools, Mark Weber-EMT International, Ann Franz-NEWMA, Debbie Thompson-NWTC

MANUFACTURING 4.0 COOPERATIVE - CURRICULUM PROGRAM FEATURING SARGENTO FOODS INC.

PRESENTERS: Candice Boutelle, Mike Dietrich, Sheila Schetter, Mike Trimberger, Anne Troka

Bringing Manufacturers & 21st Century Skills into the Classroom – The following is an exceptional example of how education and industry benefit when they work together.

The presentation was shared in order for other areas to replicate the program more quickly - what they did based on their experience and what was learned.

Timeline

- **Spring 2018** – DACUM Summit with Sheboygan County Educators & Business Partners
- **Fall 2018** – DACUM Steering Committee identifies a new middle school STEM initiative for January 2019 program launch.
- **Spring 2019** – Sheboygan County Industry 4.0 Co-op identifies curriculum, course rotation, and equipment based on SACA competencies.
- **August 2019** – Co-op superintendents and business partners established a goal of implementing Industry 4.0 courses for the 2020-2021 school year.
- **January 2020** – Co-op instructors and business partners participate in Industry 4.0 training at LTC.
- **Spring 2020** – Equipment is ordered, and eLearning curriculum access is made available to support instructors with distance learning.
- **Fall 2020** – Manufacturing 4.0 Cooperative was officially launched using a shared eLearning platform and 4-course rotation of equipment, along with company site visits and classroom guest speakers.

The Process – Building Relationships

A lot of time was spent developing competencies of what students would be learning through the process. Everyone needed to be listened to so all could align. The goal was to focus on the Associate level.

The Plan – Phase I

Implement four separate Industry 4.0 courses that rotate amongst each of the participating districts, while sharing resources and working with business partners to acquire shared mobile equipment and experiences. Each course must include the following:

- Project-based learning and challenges from real area companies.
- Work-based learning experience at area companies. A participating business would serve as a lead for each course. IT, engineering, and maintenance company reps attended meetings to determine key curriculum touch points.
- Post-secondary and industry aligned credentials.
- A clear and concise career path and the option to apply for a full or part-time entry level role in manufacturing production and/or maintenance, with job offers made by May 1 of senior year.
- Each course must be based on the competencies developed by the group's prior meetings and also directly align to the SACA Industry 4.0 Associate Level Certifications.

Based on the future performance of this pilot program, this Industry 4.0 learning model can be implemented in other rural areas amongst four school districts. **Industry 4.0 Coursework & SACA Competencies:**

Course 1: Mechatronics A		
<ul style="list-style-type: none"> Intro to Advanced Manufacturing Industrial Safety Hand Tools 	<ul style="list-style-type: none"> Print Reading AC/DC Electrical Electric Relay Control 	<ul style="list-style-type: none"> Electronics Sensors Precision Measurement
Course 2: Mechatronics B		
<ul style="list-style-type: none"> Industry 4.0 Principles Pneumatics Hydraulics 	<ul style="list-style-type: none"> Mechanical Drives Servos, Steppers & Drive Systems Advanced Fluid Power 	<ul style="list-style-type: none"> Manufacturing Metrics
Course 3: Industrial Robotics		
<ul style="list-style-type: none"> Robot Safety & Components Intro to Programming Jogging & Fault Recovery 	<ul style="list-style-type: none"> User Frames & Tool Frames Program Development Material Handling Applications 	<ul style="list-style-type: none"> Digital Twin Programming & Simulation
Course 4: Industrial Controls		
<ul style="list-style-type: none"> Mechatronics Systems Ethernet Communications 	<ul style="list-style-type: none"> Network Security & Performance Programmable Logic Controllers (PLCs) 	<ul style="list-style-type: none"> Variable Frequency Drives (VFDs) Intro to CNC Programming

Pilot Year Successes

- Ongoing training and professional development.
- Initial implementation of equipment and curriculum into current coursework.
- Curriculum review and new courses approved for 2021-2022.
- Alignment with Lakeshore Technical College for transcribed credits.
- Increased engagement with INSPIRE and business partners.

Distance learning resources included eLearning, virtual trainers, and assessments. Virtual resources enabled learning when it didn't seem possible. The goal is that a student can enter the rotation at any given time. A blueprint is being created for schools to address the equipment gap.

Leveraging Funds

- The Co-op voted to share costs amongst all eight members equally.
 - Four Businesses & Four School Districts
 - Phase I Investment of \$200,000 = \$25,000 per Member
 - Phase II Investment of \$112,000 = \$14,000 per Member
- Utilizing these commitments as partnership / matching funds, they were able to leverage additional financial support from the State:
 - Spring 2020 - \$100,000 from two partner applications
 - Winter 2021 - \$50,000 from a single Co-op application
- In total, each member's \$40,000 investment has brought a return of \$462,000 for a collaborative business / education partnership initiative.

Fast Forward Grant

- Allowed for an industrial robot to be onsite at each school.
- Provided a FANUC Controlled CNC Machine to be integrated within the Industrial Controls course rotation.

- Provided additional tools and resources for the Phase II Capstone course so that it may run as an entirely separate course section.
- Allocated money for future investment of curriculum site licenses.
- Allowed for three additional years of e-Learning access.

Phase II: Organizers are building a 5th Course - Implement IIoT Capstone Course

Continuous Improvement

- The Co-op will continue to meet on a monthly basis.
 - Grows the relationship between education and business.
 - Illustrates accountability to key performance indicators.
- Efficiency Comes with Consistency
 - Focus on the competencies.
 - Authentic career experiences & curriculum.
 - Alignment to industrial technology & workforce needs.
- A proactive solution to upskill the next generation.

Summary

Teachers, employers, LTC, LAB Midwest, and INSPIRE participated in this journey and feel its first year was a HUGE success. They want to share everything that was learned to help industry and students move forward. They hope others will build something similar - take what they did and launch it.

The only way to instill change is by building relationships that are maintained, while continuing to be accountable to each other. The teachers greatly appreciate that the materials can be used virtually and in-person. Equipment and curriculum get shared amongst the schools. This program can be done on a smaller or larger scale.

- ✓ **Educators and company reps are asked to check with their organization to see if they would like to participate in replicating this initiative. Contact Ann to confirm your organization's participation.**

YA WORKSHOP

Held on February 19, the YA Workshop had 150 registrants. Event feedback has been great, with a lot of companies wanting to get involved in YA. Members shared it has been exciting to get the word out about YA.

MENTORSHIP WORKSHOP – MAY 21, 8:30 TO 10:00 AM

The next virtual workshop will focus on mentorship of YA students and recently graduated high school students entering the workforce. Ann hopes to have the agenda finalized soon. Overview:

- Chad Kopitzke will be asked to discuss generational differences. *(Ann has had difficulty contacting Chad but hopes to receive his confirmation soon.)*
- One or two companies will present on their formalized mentorship program.
- UWGB offers a 3-day mentorship course and can discuss a shorter program, specific to our targeted population.
- YA coordinators will share perspectives and past experiences they have had with students and companies.

VIRTUAL PLANT TOURS

16 companies participated in the **virtual plant tours** program. Information was sent to the schools that included access to the video links, teacher intro flyer, parent/guardian letter, and certificate of achievement. Beginning in June, companies will be recruited to produce a video, if they haven't already. The information will be sent to the schools again in fall. Educators will continue to appreciate the virtual resources, as student fall travel will be limited.

Feedback from the schools has been great, making this initiative well worth the time and effort. Companies are also able to post their video on their website for talent recruitment. Thousands of students have watched the videos. It was noted that when an entire classroom watches a video, it only counts as one view.

MAY 4 AWARDS DINNER – FEATURING 2020 WINNERS

The Excellence Awards dinner is moving forward and will be held at Stone Prairie, in Brillion, on May 4. 68 people are planning to attend. Only one award recipient will not be attending, due to in part to his retiring from the school. Stone Prairie is an open air venue that holds 200 people. Social distancing will be in place.

NorthCoast Productions will be filming the event. The recording will be shared with the winning individuals / organizations and posted on NEWMA's website.

10TH ANNUAL EXCELLENCE IN MFG./K-12 PARTNERSHIPS AWARDS

October 26, at the KI Convention Center

Nominations will go out on May 4. The deadline to nominate is June 10. The K-12 Task Force will judge the nominations at their July 16 meeting.

The Excellence Awards dinner is a fundraiser for the Alliance's scholarship fund. For the 9th annual Excellence Awards, instead of auction items, a magazine is being produced that features sponsor ads or logo recognition. Hot links and information about NEWMA programming is also included. More money has been raised with the sponsorship magazine than in past years where there was only an auction (\$19,000 vs \$12,000). The magazine is widely distributed among the 18 counties.

Members were asked if they would like to hold an auction and/or produce a sponsorship magazine for October's Excellence Awards. Also discussed was how the event can be made special seeing this will be its 10th year. Ideas included:

- Host an auction and produce an electronic magazine. The magazine is a great way to spotlight winners and raise scholarship funds.
- Auction with one live grand prize for fun.
- Provide free tickets to first year Excellence Awards winners. Share significant updates.
- Provide 'Where are they now?' information with a possible video montage.
- Have attendees stand who have been recognized in prior years.
- Do something special for business members that have been with NEWMA since its beginning. Provide a commemorative item they can display at their company.
- Spotlight 10 years ago and today. Show how things have changed. Auction focus on '10'.

UPCOMING ALLIANCE EVENTS

April 22: Take Your Child to Work Day - Car Build Project

April 28: Talent Attraction Webex Workshop, 8:30 – 10:00 AM

May 4: 2020 Excellence Awards at Stone Prairie

May 21: Mentorship Webex Workshop, 8:30 – 10:00 AM

June 30: NEWMA's 15 Year Anniversary Celebration at Lambeau Field, 2:00 – 4:00 PM

NEXT MEETING DATE/TIME/AGENDA

The next K-12 Task Force WebEx meeting will be on Friday, July 16, 2021, 8:30 to 10:00 a.m. Agenda:

- ✓ 2021 Excellence Awards Voting
- ✓ RECAP: Mentorship Training Virtual Workshop
- ✓ Replication of the Manufacturing 4.0 Cooperative
- ✓ Upcoming Alliance Events
- ✓ Next Meeting Date/Time/Agenda