

January 13, 2021

Mr. Scott Stump
Assistant Secretary
Career, Technical, and Adult Education
U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Submitted Electronically via www.regulations.gov

RE: Expanding Work-Based Learning Opportunities for Youth (Docket ID: ED-2020-OCTAE-0176)

Dear Assistant Secretary Stump:

On behalf of the National Tooling and Machining Association and Precision Metalforming Association (“One Voice” or “associations”) thank you for the opportunity to submit comments on Expanding Work-Based Learning Opportunities for Youth and barriers to expanding work-based learning (WBL) for 16-and 17-year-olds. Building a workforce pipeline is critical to the success of manufacturing in America and our nation’s economy and security. A recent survey conducted in January 2021 with 85 respondents averaging 64 employees shows that 86% currently have an open skilled position with 94% reporting challenges recruiting qualified employees. More concerning, this same survey revealed that one in five of these metalworking manufacturing companies has an average workforce age of over 51 years old.

In answering the questions posed by the Department of Education (“Department”), One Voice focuses our comments on several key themes:

- To increase participation by 16- and 17-year-olds, must generate interest from an earlier age;
- Legal and insurance liabilities can present barriers for manufacturing employers;
- Simplify a process for smaller businesses to participate;
- Use established resources of stakeholders such as associations to reach employers; and
- Incorporate work-based learning into the education curriculum while earning college credits as part of a dual enrollment program.

About One Voice Members

Our members are small and medium-sized manufacturers averaging roughly 35-75 employees and are typically classified under the North American Industrial Classification System (NAICS) as 332

(Fabricated Metal Product Manufacturing) and 333 (Machinery Manufacturing). These classifications combined include 80,000 manufacturing establishments with 2.6 million employees.

The National Tooling and Machining Association's 1,200 member companies design and manufacture special tools, dies, jigs, fixtures, gages, special machines, and precision-machined parts, many classified as machine shops. Some firms specialize in experimental research and development work as well as rapid prototyping. Many NTMA members are privately owned small businesses, yet the industry sales exceed \$40 billion a year.

The Precision Metalforming Association is the full-service trade association representing the \$137 billion metalforming industry of North America—the industry that creates precision metal products using stamping, fabricating, spinning, slide forming and roll forming technologies, and other value-added processes. Its more than 800 member companies also include suppliers of equipment, materials, and services to the industry.

What barriers have you seen in your State or community to helping 16-and 17-year-old students gain a WBL experience?

Other than awareness, a barrier is a lack of integration with the school curriculum and incentives to participate in WBL. Explaining to a student the potential career compensation and benefits is only part of the equation as they and their guardians need assurances that their time spent in a WBL will not only lead to a fulfilling long-term career but also meet their immediate educational needs.

We believe college-based credits for work experience will provide a strong incentive for parents and students to participate in WBL programs.

The Department should work with states and school districts to incorporate WBL into the learning curriculum along the lines of dual enrollment with credits, going towards a degree. An AP-style credit program for WBL will help students earn college credits, receive a work-based learning opportunity, and advance their higher education at the same time. This an important incentive that will draw in students previously dissuaded from participating in a WBL.

In addition, a barrier to participation by employers is the lack of awareness and resources for the smaller companies to participate in a WBL. The Department should partner with state and local governments, school districts, and employer trade associations to inform the community about WBL partnership opportunities. Trade associations such as NTMA and PMA have the ability to act as a conduit to the employer community and decades-long track records including operating pre-apprenticeship programs, developing online learning curriculum, creating mentorship opportunities, and promoting STEM experiences such as the NTMA's National Robotics League.

Grants and tax incentives to small manufacturing companies to participate in the programs that also include management support with paperwork, curriculum and training set-up will also reduce a barrier for small, disadvantaged businesses. The Precision Metalforming Association Educational Foundation offers micro-grants to companies to help them engage with area high schools and vocational programs, and work with high school students to help them understand and become interested in a career in manufacturing.

What WBL programs and strategies at the State or local level do you consider successful or can be efficiently brought to scale, including apprenticeship opportunities for high school and college students?

Many of our member companies have taken the initiative to create their own partnerships and programs around the country, often with the support of PMA and NTMA. For example, the pre-apprenticeship programs that Penn United has created with both the Butler High School and the Butler County Community College have been very successful and could easily be brought to scale. This turnkey program is inexpensive and flexible, simply requiring a commitment from a school and a local precision machine shop to implement.

Early College, Early Career Program: By building awareness in 10th grade, conducting skills training at local community colleges in 11th and 12th grades, then moving students into paid internships in 12th grade, the Early College, Early Career program (ECEC) promotes economic inclusion, increased career readiness, social equality with economic opportunity to all, and revitalized local communities through increasing employment and prosperity. ECEC offers high school students the chance to directly experience manufacturing careers through skill-building activities and paid internships. Along the way, students earn college credit from community college partners, manufacturing certifications, and even job offers. Upon graduation from high school, students have the option to continue their education, continue working at their companies, or do both simultaneously.

Medina, OH County Internship and Awareness Programs: As part of the Medina County Manufacturing Partnership (MCMP) Program, the Manufacturing Awareness Week is open to students from Medina, Medina County, or surrounding counties in 9th grade who have a strong interest in manufacturing fields of study like machining, maintenance, welding, administration, information technology, human resources, marketing, and building grounds. The Awareness Week includes travel to the facilities of MCMP sector partners as well as County resource entities. Students who then continue with the summer internships, offered for students beginning in 10th grade, may participate in shadowing opportunities and work with their assigned mentors to learn about career paths in manufacturing. <https://mcmpworks.org/manufacturing-awareness-week/#program-information>.

Another is the Ohio MEP High School Internship Program. The Ohio Manufacturing Extension Partnership (MEP), under the Ohio Development Services Agency, partners with area high schools and career/technical schools to identify students with an interest in manufacturing, as well as a desire to gain real-world manufacturing experience. The Ohio MEP High School Internship Program assists manufacturers with their workforce needs, while also providing students valuable career skills.

The ACCESS program is a four-week training program that provides 120 hours of pre-employment training comprised of technical skills, on-line learning, in-person hands-on learning, and career-readiness in partnership with local employers. This program could be brought to scale to focus on both high school and college students.

GPS Education Partners works with its business and education partners to bring student awareness to numerous industries and vocations. Together, through early assessments of interests, skills, and abilities, we increase student interest in technical careers and help them identify their aptitudes earlier to create data-driven career training plans. All of these real-world interactions create relevance between education and an attainable career. <https://gpsed.org/>

Minnesota's M-Powered and FastTRAC: <https://vimeopro.com/voxpoptvideo/careerpathways>

Oneda Corporation: Oneda Corporation supports a First Robotics Team for 9th - 12th-grade high school students, which supports the local STEM Center via Oneda Volunteer Mentorship in Teaching, Training, Safety, Engineering, Design, Machining, and Assembly of competition robots. Through the Volunteer Mentorship, high school students are trained in advanced methods of design, engineering, and machining metal components or parts for use in robots. The program also provides an opportunity to introduce their Tool/Die Apprentice program and promotes advanced manufacturing using robotic transfer press lines. Further, it demonstrates how tool/die machines and processes work to support custom machined parts for robotics using the creative collaboration of student-designed components.

What role does the public elementary and secondary education system currently play in the development of career readiness for youth, and what role should it play?

Perception is a major barrier to attracting young people into manufacturing careers as lack of awareness and exposure to career opportunities at a younger age creates a situation where students, “do not know what they do not know.”

Students need exposure to careers prior to turning 16 and that awareness should begin at the earliest ages. The National Manufacturing Day is an important first step and both NTMA and PMA have worked with their member companies to host thousands of students over the years tour manufacturing plants. However, this nationwide initiative is an annual event, whereas our organizations encourage year-round plant tours. Incorporating ways to expose younger students physically and virtually is an important component of a successful WBL program for older students that will attract more interest.

For example, in many communities such as Milwaukee, students in the seventh grade receive exposure to careers combined with a curriculum as part of their work-based learning journey. Known as the Be the Spark program, it engages over 100 business partners and serves more than 3,800 seventh grade students creating these career exploration opportunities at an early age that become the building blocks for learning life skills interwoven with a clear curriculum.

As in education for a student, in manufacturing, an employee's skills are not only determined by their own aptitude but also the instruction they receive. In our industry, the phrase often used is “training the trainers.” Developing training programs for educators to assist students in exploring careers and assist with improving awareness in partnership with local employers will help expand further WBL awareness.

The Department should encourage school leadership to celebrate students that graduate and enroll in apprenticeship training programs. Today, state and federal funding and other accountability standards often measure the education institution by the number of students enrolling in college upon graduation. A system that better incorporates Career and Technical Education (CTE) programs and WBL into their “scoring” of school performance will also incentivize educators to increase awareness of these programs.

We suggest engaging with secondary students who may be interested in job-shadowing opportunities, developing relationships to transition job shadows into internships, and potentially finding future apprenticeship candidates. Elementary and secondary educational organizations should help expand the knowledge of what manufacturing is and demonstrate that there are exciting careers in which forward-thinking technologies are used.

In addition to youth apprenticeships, some of our members report utilizing youth internships to provide students exposure to manufacturing careers. One business has a year-round internship program with nine students in the summer of 2020. While not all will become apprentices, as many are interested in engineering, they have the opportunity to learn about manufacturing and during that paid internship program, they are able to spend time in every department to learn how material becomes a product. Businesses report a benefit not just for the students, but the program has proven to benefit the company itself by bringing in new fresh thinking and creating more diversity in our companies.

How can we better align resources and administrative, regulatory, and statutory requirements to allow for greater collaboration between educators and private and nonprofit employers?

A lack of information to employers is a major barrier combined with a patchwork of federal and state regulations businesses must navigate. Employers report a hesitancy to allow a minor on the “shop floor” for fear of liability exposure and concern from their insurance provider. Much of this is a lack of understanding that certain federal and state regulations will permit a person under the age of 18 to enter the shop floor but often the restrictions remain an obstacle. Providing information to insurance and legal providers about WBL and the benefits of the programs along with clarification of what activities are permitted under both federal and state laws could remove a significant barrier of perception and the lack of understanding of the regulations governing not just 16- and 17-year-old youth but also those 14 and 15 years old.

The federal government places young workers into three age categories: 16-17-year-olds, 14-15-year-olds, and under 14. Age 14 is considered the minimum age for employment by the Fair Labor Standards Act, with the same act limiting the number of hours worked by minors under the age of 16. Many employers and their liability providers interpret the federal law as banning “hazardous occupations” for all minors regardless of age, including in machine shops and metalforming operations that involve power-driven machinery. Without the ability to learn on these machines, a student will not receive the full benefit of fully understanding their career opportunities in manufacturing.

There are certain exemptions to the hazardous occupations for 16- and 17-year-old apprentices and student-learners provided that they are employed under certain conditions. While the law does allow for a minor apprentice to have intermittent exposure to hazardous work, the student-learner must have an agreement with the school, a process unfamiliar to smaller businesses in particular.

A brief instruction booklet or how-to template for educators, employers, students, and their insurance/legal liability vendors would assist all stakeholders to better understand their responsibilities and remove a significant barrier to WBL – a lack of understanding.

Such guidance from the federal government will assist in streamlining the various state laws that an employer must consider in addition to OSHA, FLSA, and other regulations. A uniform approach to minors in the workplace across state lines will also support the worker (and student) who may relocate and would now have a nationwide portable WBL.

The Department should partner and provide grants to intermediary stakeholders such as trade associations who can disseminate the information and resources to their membership base. A trade association is able to get all parties to the table to develop the collaboration and they receive a direct benefit by having a future workforce for its membership.

What do State and local workforce development boards established by Title I of the Workforce Innovation and Opportunity Act and their partners need to do to facilitate better leveraging Federal workforce dollars targeted at youth?

School districts should work with their workforce investment boards to determine the make-up of businesses in their area and reach out to them to ask what skills they look for in their employees. Partnering with national associations and their local chapters and districts is an efficient means for government officials at all levels to better identify regions to target youth engagement with robust employment opportunities.

A WBL partnership with local trade associations to make sure that the smaller manufacturing companies understand what is available to them will assist those smaller companies who do not have the human resources needed to understand how to leverage these resources.

Thank you for the opportunity to submit these comments and we look forward to working with you to strengthen manufacturing in America and attracting the next generation into our shop floors to protect our nation's security and grow its economy.

Sincerely,



David Klotz
PMA President



Roger Atkins
NTMA President