



Josh Cramer, Senior Education Program Officer, SME Education Foundation

EDUCATING OUR YOUTH FOR SUCCESS IN MANUFACTURING

When asked, “What is the most valuable resource to a manufacturing company?” responses will vary. However, for many of us in the industry one answer is always true: workforce - the human capital manufacturers need to fuel business growth.

Skilled manpower is essential for companies to meet business objectives; however, there is a shortage of skilled workers trained in both traditional and newer technologies. But, we can meet this skills gap challenge by attracting, engaging, and preparing our next generation for advanced manufacturing occupations in the early stages of their education.

Since the beginning of my professional career, my passion has been and continues to be educating and building successful pathways for our future workforce. I began teaching elementary through high school in southwestern Pennsylvania, and I worked with numerous manufacturing partners to bring industry-relevant content and skills to the classrooms. Through collaborations with companies and associations, I was able to create a unique applied engineering program with extracurricular activities and summer camps that broke down classroom walls.

This student-centered approach, using real-world applications and hands-on competencies, empowered students to be active participants rather than just listening to lectures in class. A “toolbox” philosophy was key to providing students with essential core concepts. As a result, they became real 21st-century problem solvers.

Thinking outside of the box was never enough. I encouraged my pupils to think without a box!

In my current role as the senior educational program officer for the SME Education Foundation, I continue my passion of inspiring, preparing and supporting the next generation workforce. With help from academia and industry leaders, we are investing in students by offering programs that provide pathways to rewarding careers in manufacturing. One of our most important programs is the Partnership Response In Manufacturing Education (PRIME®), an initiative that provides opportunities for students to develop industry-relevant knowledge and advanced manufacturing skills before they graduate from high school.

As part of the PRIME structure, students:

- Gain hands-on experience with state-of-the-art equipment;
- Engage with other students and educators across the PRIME network to share their experiences;
- Attend advanced manufacturing/STEM camps;
- Collaborate with local SME chapters and industry partners to plan manufacturing-related events; and
- Access training materials and curriculum from Tooling U-SME, the industry leader in manufacturing learning and development.

By working together with manufacturers, PRIME helps build a tailored pipeline of qualified workers in a community, providing companies with access to a highly- skilled and educated local workforce.

William Valverde is a great example of a student who benefitted from participation in the PRIME program. William attended Hawthorne High School in Los Angeles, California - one of 38 schools in the PRIME network - and was part of the school’s engineering academy. A significant part of his education included real-world experiences that allowed him to design, build and present projects to manufacturing professionals.

Right after graduation, William landed his first manufacturing job as a draftsman. Soon after that, he enrolled in the Manufacturing Engineering program at California State University-Northridge, where he is currently pursuing a bachelor’s degree. William is now a CAD Manager overseeing computer aided design at Kinetic Traction Systems, and he plans to attend graduate school, ultimately obtaining a doctoral degree. Even though his life is busy, William still finds time to go back to Hawthorne and mentor students in the engineering academy program.

William’s story is just one example of why programs like PRIME is so important. I am proud of our history of supporting students, communities and the industry. I also look forward to our plans for the future.

We all have an opportunity to guide the direction of our future manufacturing leaders and with the support of academia and corporate partners, we can lead them to bright futures. You can join us in our efforts to promote manufacturing to our youth.

To learn more about the SME Education Foundation and the PRIME program, visit smeef.org.

Josh Cramer joined the SME Education Foundation in December 2013. In his position as the senior educational program officer, he monitors, promotes and evaluates the Foundation’s major educational programs across the United States. He also manages the PRIME program, which has grown to 38 schools in 22 states.