

WORKFORCE PIPELINE

A MONTHLY FEATURE ABOUT TRAINING, EDUCATION & WORKFORCE DEVELOPMENT

Simulated Workforce Program Puts Students in Charge

Today, eight out of 10 manufacturers are worried about meeting their workforce requirements within the next five years. Many of these companies say they have openings for specific jobs, but they can't find enough reliable employees who show up for work, pass drug tests, or even have a positive work ethic. While the demand for a highly skilled and reliable workforce continues to grow among business and industry leaders, a new initiative in West Virginia is taking steps to tackle this concern.

Through the West Virginia Department of Education Simulated Workplace program, high school junior and senior students are learning accountability and technical skills as part of an initiative to boost their professional careers in manufacturing. One of the schools piloting the program is the United Technical Center (UTC; Clarksburg, WV). As part of the initiative, students have access to online training through Tooling U-SME, while gaining hands-on skills at the school's Precision Machining Co. UTC's program operates like a business, which creates an authentic work environment to prepare the students for future manufacturing careers.

Precision Machining Co. is, in fact, UTC's Simulated Workplace, which the students named the Precision Machining Co. It operates like a machine shop and puts the students in charge. They rotate through job roles such as foreman, project manager, and toolroom attendant.

Two-Year Program

The Career Technical Education (CTE) program at UTC spans two years and welcomes juniors and seniors from eight high schools across a three-county area. Students learn how to run a variety of machining equipment including lathe, mill, grinder, drill press, CNC turning center, and CNC machining center. Technical skills are not all the students gain from this program. Soft skills such as punctuality and cooperation are also an important takeaway from the experience.

To ensure our students are career-ready, we have built a strong partnership between schools, industry partners like Tooling U-SME, and our community.

Spearheaded by the West Virginia Department of Education in collaboration with experts from several businesses and industries in West Virginia, the Simulated Workplace program was created to help schools integrate workplace protocols that align with West Virginia's workforce requirements.

Businesses leaders worked with the state's Department of Education to develop processes for the Simulated Workforce program, and they came up with a template for students to use when developing policies and procedures for their companies. Once a school's Simulated Workplace program is up and running, West Virginia business leaders take one day out of the year to visit these student-led companies and inspect how well they are doing as well as determine the effectiveness of the program.

Staying on the Right Track

This direction is a win-win for everyone. The process gives educators an idea whether they are on the right track, business and industry have a chance to see how future employees are advancing—they can make tweaks along the way to meet the demands of their businesses—and students sometimes find summer internships or even job opportunities right out of high school.

This type of program is important because not only does it enhance the instructor's delivery of career education and create students who are more engaged in their career development, but also because Simulated Workforce programs help fill the pipeline with a much-needed trained talent in industries lacking a qualified and dependable workforce.

These programs introduce students to various business processes using 12 different measurement areas, including on-site business reviews, company meetings, project-based learning/student engagement, and a formal attendance system. The West Virginia Simulated Workplace Program al-



Instructor Kevin Sands (left) assists a student enrolled in the Career Technical Education Program at the United Technical Center, Clarksburg, WV.

lows business and industry professionals to play a significant role in identifying CTE programs that prepare high school students for successful careers after they graduate.

By incorporating environmental workplace protocols that line up with the state's workforce requirements, students gain real-life work experience. They learn professionalism, safety guidelines, as well as "soft skills," like practicing good attendance; all of which prepare them for the workplace. The students also have to wear uniforms, undergo random drug testing and utilize a time clock as part of their participation in the simulated workplace program. State grants cover all of these expenses.

Responsibility Stressed

Taking ownership of their education is a major part of the initiative as students are expected to manage their online courses. Every six-week cycle, we provide students with all of their requirements for online Tooling U-SME courses, and they are responsible for scheduling their time accordingly.

We split the courses into bundles of classes and then pass them on to the students at specific times during the semester. These classes include interactive quizzes, role-playing scenarios, shop "labs," and CNC simulators.

I took 36 courses before introducing Tooling U-SME to the students because I didn't want them using the online system if I hadn't. The material fits right in with our Simulated Workplace philosophy of giving more responsibility to students.

The availability of the online courses is a plus for the students; they like having access to lessons at any time, even on a snow day. We actually had one student working on courses on his iPad up in a tree while bow hunting. The flexibility allows students to manage their course load based on their schedules.

Tools for Teachers, Too

Instructors also like the online courses, because the monitoring tools help them see how much time students spend on

assignments, oversee their progress, and save time often dedicated to administrative tasks. If we see that a concept is trending low, we can reteach and reinforce that lesson. It's also simple to export results to a spreadsheet, which makes reporting easier.

UTC's Machine Tool Technology program is the first in West Virginia to be recognized by the National Institute for Metalworking Skills (NIMS), the highest benchmark for metalworking training programs in the US—based on national, industry-written and industry-driven skills standards. UTC has received other honors, including earning a Schools of Excellence Award (2011–2012).

Most importantly, the school is ensuring students are employable at the end of the program by meeting industry expectations. When students finish the two-year program, they leave with a portfolio that includes documented learning, qualifications earned, projects completed, as well as at least 60 certificates from Tooling U-SME courses.

This goes a long way with business and industry, and Tooling U-SME has had a great impact on our program.

Spreading Across the State

More than 500 CTE classrooms participated in the pilot phase of this initiative, which included more than 13,000 students. By the 2016–2017 academic year, all CTE programs in West Virginia will take part in the program, where students run the simulated business.

It's not news to most in manufacturing that the skills gap is expected to create a shortage of nearly two million qualified workers by 2025. The continued evolution of tools and technologies coupled with baby boomer retirements only adds fuel to the fire, which is cause for an immediate need to train the future workforce so they are ready to meet the demands of the industry. Implementing programs like West Virginia's simulated workplace initiative is a step in the right direction, and a move that will, over time, help fill the pipeline of highly-skilled, professional talent.

With Simulated Workplace, we see that students are more accountable and engaged, and manufacturers like the end product. ➡



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