

## REALWELD® Breaks Through Knowledge Gap, Boosting Welder Employability



*“The REALWELD Trainer allows you to help a student focus on technique but also teach them about the variables needed to make a ‘good’ weld,” says Scott Laslo, assistant professor and coordinator of the Skilled Trades department at Columbus State Community College.*

Community colleges approach workforce development from both crucial sides of the equation – educating tomorrow’s future employees and helping today’s workers improve upon their existing skillsets. The result – a better trained, more knowledgeable worker at all phases of the local employment cycle.

This particularly holds true when it comes to educating workers in the skilled trades, whether they are on a construction site or working in an advanced manufacturing facility. At Columbus State Community College (CSCC) in Columbus, Ohio, curriculum increasingly incorporates new technologies designed to narrow the skills gap, and strengthen the relationship between the school, its 26,000 students and the local employers it serves.

The college recently installed Lincoln Electric’s REALWELD® Trainer in its welding lab. The REALWELD system uses motion-capture technology to objectively analyze and score welding technique while the user performs real arc-on welds or practices arc-off welds. The system delivers wide-reaching benefits from its first use.

## A look at REALWELD

Unlike virtual reality training solutions designed for classroom use and limited to “virtual” welding, REALWELD is designed for in-situ use in a real-world welding booth, in either arc-on or arc-off modes. REALWELD teaches multiple welding processes – MIG, stick and flux-cored – in a number of welding positions (1F, 2F, 3F, 4F, 1G, 2G, 3G) and joints (lap, tee, groove, flat plate).

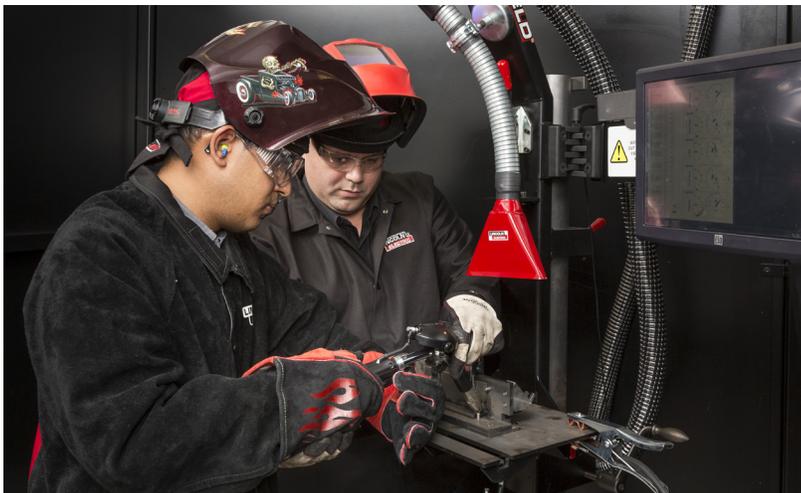
Instructors can configure REALWELD’s “sweet spot” parameters associated with proper welding technique using a built-in, instruction-set feature known as welding procedure specifications (WPS) for each weld to be performed. They also have the ability to adjust tolerances to lenient, moderate, or stringent settings.

As a user welds, the system analyzes and scores every attempted weld trial and provides embedded, on-screen information that students can access in the booth. This includes the ability to review such things as how-to videos, WPS documents and even instructor handouts, such as safety data sheets, without ever leaving the welding booth. The REALWELD system also provides students with audio coaching as they weld.

The embedded “audio coach” – nicknamed Audio Allie – provides guidance during the actual arc-on welding operation, providing audio cues regarding weld speed, angles, aim, contact tip to work distance/arc length and position in the weld. Audio cues can be turned off at any time, allowing the student or prospective employee to demonstrate learned behaviors.

The result of such embedded features? Trainees get immediate, objective, data-driven feedback. Instructors can track progress or immediately see bad habits being repeated. All of this can be done without the need for an instructor to hover over any particular student’s shoulder.

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*REALWELD allows an instructor to teach correct welding techniques and then have the student practice in Arc ON or Arc OFF mode with performance monitoring.*

Laslo says the system has allowed the students to develop welding portfolios. Using it, they can generate images and documentation of the welds they have learned. All of this information creates a recorded history that gives students a comprehensive snapshot of where they were on Day 1 when they first picked up a welding torch and where they are when they exit the program.

“This data allows them to describe to potential employers what those data sets mean, the learning sequence they followed and the outcomes they achieved,” Laslo says.

## Aligning a local workforce

Too often community colleges hear from local employers that, despite intensive training, graduates aren’t always prepared for real-world work in the skilled trades or that the students entering the workforce don’t fully meet the needs of their specific production processes. REALWELD has changed all that for students at CSCC and the Columbus-area employers that the college serves.

Through its WPS features, the REALWELD Trainer can capture the welding technique of an organization’s master welders and actually highlight the technique variances between those masters. The employer then can use this data to configure a WPS that reflects its own “perfect technique” to its “perfect weld” in the REALWELD Trainer. Then, going forward, all others are able to train against that perfect technique.

Master welders from leading employers around Columbus have visited CSCC where they have worked with instructors to develop specific weld procedure specifications for their respective organizations. Using these blueprints, the college then configured its REALWELD Trainer with these employers’ WPS information, allowing students to learn welds required at companies hiring locally.

Thanks to REALWELD’s documentation features, these students earn a recorded, numerical score on each particular employer’s WPS, improving their employment opportunities. And, employers can compare the current class and start recruiting their preferred new hires earlier in the process.



With REALWELD, schools can record or ‘clone’ the performance of a master welder from local employers and train prospective employees to meet or exceed that performance.

### Screening applicants and employees

Developing standardized weld procedure specifications with CSCC’s REALWELD Trainer benefits participating employers beyond expanding the future workforce’s knowledge and skills base. It also provides them with a tangible, measurable tool by which they can screen the ability levels of new hires and even existing employees.

Using the specific WPS information of a company’s master welder, REALWELD provides objective, data-driven feedback and scoring of live welding, which can be incorporated into new hire screening procedures. Immediate feedback is visible to both the trainee and instructor, and progress tracking for each weld trial will quickly and clearly illustrate experience, steadiness, muscle memory, and coach-ability.

“We met with a local employer in the foundry industry and talked with them about qualifying existing applicants they are hiring. They wanted to know if we could help them verify these individuals,” Laslo says. “We brought them to our facility to see the REALWELD Trainer. They watched me weld, and what they saw happening on the screen was enough to convince them to bring people here for welding evaluations.”

Columbus State Community College now serves as a testing facility for several local employers, using the REALWELD Trainer.

“We are realizing we need to understand what potential employers’ training programs look like in addition to helping our students gain the skillsets and knowledge to get a job. There’s a fine line between the two,” Laslo says. “Now that we have REALWELD, we can sit down with employers, discuss how we can work with their master welders to learn their techniques and ‘train our machines to weld’ like those experienced professionals. It has been a game changer.” ■



The REALWELD system is available as a standalone system to use with existing welding equipment or as a complete package with a Lincoln Electric Power Wave® C300 multi-process wire feeder/welder with necessary accessories.