

Ohio Technical College

Turning virtual novices into welding experts



“We take somebody who’s never been able to weld before, or who’s never touched a power tool, or fabricated, and when they leave here, they’re certified,” says Greg Bieniecki, director of welding at OTC. “We give them the education they need to be able to obtain an entry-level position at a company in the welding field.”

Ohio Technical College recently invested in Lincoln Electric’s VRTEX® 360 virtual reality welding simulation trainers, allowing students to practice the techniques of stick and wire welding in a realistic virtual environment. Students are scored on several parameters, including travel speed, work angle, travel angle, aim and contact tip to work distance. VRTEX accurately portrays resulting weld discontinuities, including incomplete fusion/penetration, slag inclusion, porosity, undercut, poor bead placement, wrong weld size, convex/extra reinforcement, concave/underfill, and excess spatter.



The VRTEX system has enabled OTC to cover more ground with students more quickly. “The benefit of the VRTEX welders in education is the ease of use, how well it works in simulated welding, the results you get,” says Bieniecki. “I get the students up to speed quicker that I would have if we didn’t have it.”

Kelly Bean, an OTC instructor, says VRTEX enables a level of information access that resonates with a generation of students that has grown up with smartphones and other personal technology. “There’s a need to know right now,” he says. “They want instant gratification: What did I do, how am I doing, what’s going on. With these machines, we’re able to offer that, because they can grade themselves.”

But Emily Zibert, like any dedicated student, feels she still has a ways to go on the journey to becoming an expert welder. She’s counting on OTC and VRTEX to get her there.

“I really need to get this down even better,” she says. “I want to be even better than I am right now. That’s one of the reasons why I chose Ohio Technical College: so I could work on all of my techniques and become better than just your average welder.”

She adds: “You can make good progress with the virtual welders. I like them a lot. When you’re first starting, they are a big help.”

Joe Baker, an OTC student, says he was sold on welding from the moment he struck his first arc, but the virtual reality training system is what helped him refine his skills. “Really, it was the VRTEX machine that taught me how to weld.”

VRTEX scoring sets up a learning environment that is competitive, but in a healthy way. “It’s definitely a great motivation,” says Baker. “As you’re going along, you’re trying to beat each other’s scores. We kept busy for hours and hours, just trying to get the highest score possible.”

In the end, OTC’s interface with Lincoln Electric and the VRTEX 360 system is aimed at taking the individual student from complete novice to experienced welder. “I measure success by seeing a student start here with limited knowledge or ability,” says Bieniecki, “and leaving here with the confidence and the ability to go out there and make a living.”

