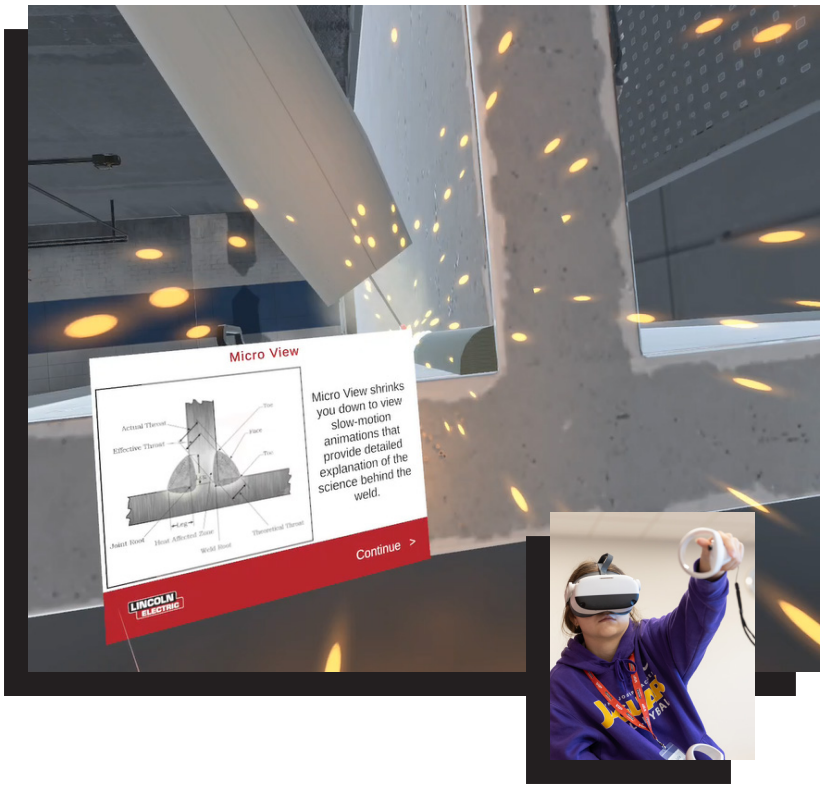
VOYAGE™ ARC TECHNOLOGY INTRODUCES STUDENTS TO THE WELDING TRADE

Virtual reality experience sets the stage for discovering a career in welding



Sometimes the first and most important step on the path to a career is discovering what you don't know.

Students from the Honors Engineering and Design program at St. Joseph Academy – an all-girls high school in the west suburbs of Cleveland, Ohio – took that first step during a recent visit to the Welding Technology and Training Center at Lincoln Electric's main headquarters in Euclid, Ohio. During the visit, the group of eight students and the head of their honors program got acquainted with the basics of welding via Lincoln Electric's new Voyage Arc virtual reality (VR) headsets.

Voyage Arc is an interactive classroom platform designed to introduce welding fundamentals, expose the user to welding career opportunities, and promote career exploration. The all-in-one headset is a classroom-ready device that can supplement existing curriculum or serve as the foundation for career exploration programs.

"It's an exposure tool," says Denise Sirochman, Product Manager for Lincoln Electric. "It introduces students to welding and the idea that there are entire industries wrapped around welding. It's a platform for telling students, 'This is an option. This is a skill you can learn. You can go down this path, and if you choose to, there are training tools you can use to refine your skills.'"

Voyage Arc uses cutting-edge VR technology to provide students with a multi-sensory, engaging experience in a safe and controlled environment. In addition, it establishes an inclusive and supportive learning platform accessible to every student.

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Once the headset is on, students are immersed in a virtual amusement park that provides a unique setting to learn the basics of welding. This interactive environment removes distractions and sustains interest for the duration of the experience.

Sarah Karl, a sophomore at St. Joseph Academy, was among the visiting students. She already has her sights set on a career in aerospace engineering. It's an industry in which welding plays a foundational role, but Sarah admits that welding was somewhat foreign to her before she gave the Voyage Arc headset a test drive. There were certain variables related to proper welding technique that she'd never considered previously.

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Sarah Karl, Sophomore, St. Joseph Academy

"I didn't realize until I tried the VR headset how slow you had to go to make a proper weld," she says. "You couldn't go too fast, but you couldn't go too slow either. Everything was very specific. I didn't realize how demanding the process is."

But after as little as 20 or 30 minutes, Sarah's understanding of the principles and process of welding expanded significantly. "It was hard to get the hang of it at first, as far as making sure the angle and the speed and all the other variables were right," she said, "but the program shows you all the aspects of a weld and how everything fits together. It shrinks you down so you can see the different parts of the weld. That was really helpful, and fun too."

Samantha "Sam" Krankowski is a St. Joseph Academy senior who's headed for West Virginia University in the fall. She already has her eye on either mechanical or civil engineering. "I definitely want a career where I can be more hands on with projects," she says. "Something where I'm active and interactive with a team every day and not sitting at a desk."

Sam's grandfather has a shop in his garage where he frequently works on small welding projects. She has yet to strike an arc herself, but the Voyage Arc technology exposed her to quite a bit in a short time.

"It taught me the more nitty-gritty aspects of it," she says. "The different types of welds, as well as the different parts – the legs, the face, the toe of the actual bead itself. I loved the tutorial that provided the background, and then gave you feedback at the end to show you how you did."

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Rob Zdankiewicz, coordinator of the honors engineering and design program at St. Joseph Academy, spent some time with the Voyage Arc headset himself during the visit to Lincoln Electric. Like his students, he also walked away with a deeper understanding and appreciation of the finer points of welding.

"I've always understood the basic concept of fusing two pieces of metal together," he says, "but there are also the nuances and intricacies of angle, speed, distance from the work piece – all very specific criteria. I had no idea of that level of precision and detail that are part of the process."

But there are benefits to the Voyage Arc technology that are about more than just welding, Zdankiewicz adds. In the 21st century, the delivery system for the information can be just as important to the education process as the information itself.

"I think the younger you expose students to VR technology like this, the more comfortable they become with it, and the better they become at using it," he says. "So getting comfortable with the technology that will help them learn a skill is going to benefit them in the long run. Even if the technology we're exposing them to – virtual reality welding – isn't directly connected to what they're eventually going to do as a career, the idea of learning in a new way and being a life-long learner will help them."

Even before any structured welding curriculum starts, schools and educators can use Voyage Arc as a recruiting tool, says Sirochman. The virtual reality headset provides just a taste of the same technology built into Lincoln Electric's VRTEX training systems, which actually take students on their first steps toward developing welding techniques and skills.

"Educators can say to prospective students, 'We're using this technology in our school to teach welding in a progressive learning environment,'" says Sirochman. "Voyage Arc is just an introduction, a light brush of what welding is all about. It's the product that starts the student's journey in the Lincoln Electric education system.

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