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Ingenuity for life

Supporting innovation and achievement with a STEM grant

Creating the perfect place to learn at Ohio County Schools

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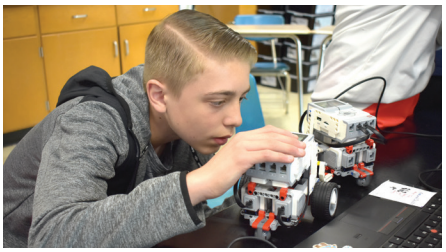
Located in the northern panhandle of West Virginia, Ohio County—named for the Ohio River—was formed in 1776; today approximately 45,000 people call it home.

The Ohio County School District in Wheeling has a long-standing tradition of maintaining high academic standards for its students. As Superintendent Dr. Kimberly Miller says, "Together, we achieve with a focus on our students. We work with our community to create an environment conducive to student learning, build a foundation for success, enrich minds, and inspire dreams."

It's this dedication to creating the perfect place to learn that led the district's Innovation Coordinator JoJo Shay to explore new ways for classrooms to shift from teacher-centered to student-driven environments. "Our job here is to move education forward and prepare all of our students to be successful in their lives—not only with content knowledge, but so that when they graduate, they're workforce-ready, no matter what their next steps are," she explains. "Technology is a great way to begin this change process and help students become career ready."



Partnering with Siemens supports district Innovation Program

According to Josh Yost, a science teacher for Ohio County Schools, "In my classes, I focus primarily on student-driven learning. I prefer when my role is to facilitate STEM-related projects as they work in groups to solve problems and understand the process of learning. When students are in charge of finding the problem and working together to fix it—it seems like common sense, but to see it in action, in a class room setting, is mind blowing."

Siemens Smart Infrastructure has been working with the school district for a number of years on building automation and controls. Through the course of conversations, Shay and Dr. Miller learned of Siemens' grants for education and workforce development programs and recognized a remarkable opportunity to support the Innovation program within the district. "We knew there were so many ways that Siemens' goals and our goals aligned. It's about partnering with Siemens to really help our students and community, and not just receiving materials," says Shay.

Ultimately, Siemens awarded Ohio County Schools with more than $27,000 to support and expand their Innovation program and STEM curriculum. The district is using the grant to obtain Lego robotics kits, renewable energy kits, and other assets to establish a county-wide "library" of STEM resources. In addition, Siemens is supporting the district with professional development, lesson plans, curriculum development, and other teacher training to make sure that not only are the materials available, but also so that teachers feel confident using them in their classrooms.

Cross-disciplinary approach, collaboration, and living laboratories

"This isn't a program you can hand off and wish the teachers luck," says Dr. Miller. "JoJo has taken the time to learn about these programs in-depth, to invest in equipment and people with great skills to make it successful." From technology sequencing and coding skills to general career readiness, "The grant from Siemens will play a big role, and we're already getting emails from our principals who are excited at the opportunities," notes Shay.

Because Ohio County Schools already had a Lego education program in place, it made sense for them to expand it to offer an engineering class that focuses on both Lego robotics and renewable energy kits from Siemens. "We're running out of fossil fuels, which can be a tough topic for West Virginia students, so we will use the Lego kits obtained through the Siemens grant to record and graph data about how much solar and wind energy can be produced, and then compare those results to real-world applications," says Yost.

With the ongoing professional development, Shay explains that teachers are learning from each other, adapting their approaches, and collaborating in new ways. "It's really about taking a cross-disciplinary approach to STEM education and building students' and teachers' confidence," she says. Yost concurs: "I'll collaborate with English and history teachers to incorporate writing and historical elements into a wind turbine lesson, for example. We've had the art teacher in our classroom to teach students how to sketch their ideas before building them."

Embracing the journey

Teachers like Yost will also have the chance to work with Siemens engineers to begin teaching students how the building automation and mechanical systems work, making the buildings themselves living laboratories as well as perfect places to thrive. "We want students to explore ideas and try new things; they're learning that failure is 99% of what you do in science, and that they learn best when they fail and have to go back and try again. It's a journey, it can be emotional, but the kids are embracing it," Yost concludes.

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