

# suburban life

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page 70



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# LEARNING BY DOING

**THE NEWLY OPENED CENTER FOR INNOVATION & DESIGN AT FRIENDS' CENTRAL SCHOOL HELPS STUDENTS ENGAGE IN EXPERIENTIAL EDUCATION FOCUSED ON STEAM CONCEPTS.**

BY MATT COSENTINO | PHOTOS BY ALISON DUNLAP

**While the traditional models of education still hold great value in the 21st century, the days of students simply sitting in a classroom and reciting historical facts or solving math equations are long gone.** Experiential learning has transformed education, a concept fully embraced by Friends' Central School.

Founded in 1845, Friends' Central sits across two idyllic campuses in Wynnewood and serves children in nursery school through grade 12. The idea of engaging students in hands-on experiences to stimulate their creativity, skills, and interests, give them a better grasp of course material, and prepare them to excel in college and careers has long been a staple of the curriculum. This year, however, Friends' Central has taken it to a completely new level.

Guided by demand for increased opportunities for STEAM—science, technology, engineering, the arts, and mathematics—the school created the Center for Innovation & Design (CID), which caters to students in grades six through 12. Phase I of the center opened this year under the leadership of co-directors CJ Keller and Matthew Schoifet, and guided by the vision of Head of School Beth D. Johnson '77. The goals of the CID: to foster collaboration among different disciplines, to expand STEAM offerings, and to help students to pursue their passions while developing problem-solving skills.

"I've been a physics teacher for eight years, and what I've learned is that you can't just teach physics with math in the classroom," Schoifet says. "Obviously, that's important if students want to go on to be scientists or engineers, but a center like this really gives us an opportunity to connect science concepts that we're doing in the classroom to the real world. And it's not just science, but concepts in English, history, and math as well."

Situated in a renovated gymnasium on the school's City Avenue campus, the CID has 6,800 square feet of space and includes studios for design and prototyping, fabrication, technology, and robotics. Keller was part of the process from the beginning and visited

Staff photo courtesy of Friends' Central School

similar centers at peer schools, local colleges, and universities, and even professional spaces in Philadelphia, to come up with ideas. Over the summer, he and the rest of the team worked closely with current and former students to prepare Phase I of the CID for the school year.

“[Experiential learning] was something we had before, just in different pockets of our school,” Keller says. “Often we’d have students working on something in our makerspace and they would need a certain tool from the woodshop, so they would have to physically carry their project across campus to get one thing cut and then bring it back. It wasn’t the most efficient way to create. Now we have everything under one roof. Students are exposed to different disciplines and serendipitous exchanges between grade levels just because we have the room to have everyone in here at the same time. It inspires them creatively.”

The CID includes state-of-the-art equipment such as a ShopBot CNC router, a Glowforge laser cutter, and traditional hand tools in the woodworking department; a WAZER waterjet cutter, sewing and embroidery machines, and a soldering station for metalworking and textiles; and 3D printers, a digital media studio with a greenscreen, and virtual-reality headsets under the technology division. All of these tools can be used for traditional science and English classes or new courses such as design thinking and 3D fabrication.

Students are also encouraged to stop by and develop their own projects during free



periods or after school. One of the early projects this fall involved two students building a balsa-wood model airplane from scratch and soldering a motor to it.

“I think so much about this space is seeing what’s possible,” Schoifet says. “Kids have such great ideas, and there’s so much out there with technology and the internet. We’re just here to help them put their ideas into action. It’s really exciting to see what they can do.”

Keller envisions the students developing creative, empathetic solutions to problems they see around them, even at school.

“I am also excited about the role the CID can play as an incubator for sustainability innovation,” he says. “Whether the students address environmental challenges—like rain-water runoff from the roof of this building—or issues they identify themselves, they’ll have the tools to make changes. For example, this summer we installed solar panels that are

powering all of our hand tools and a solar generator. And this is just a start. I can’t wait to see the ways our students address community and environment concerns using new design thinking skills and the incredible tools available in this new facility.”

The CID, and Friends’ Central’s focus on STEAM, will continue to evolve. Schoifet is currently recruiting students for a robotics team to take part in the FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition this January, one of the most renowned programs in the country, engaging in an eight-week build season before competing in March and April. Keller has plans for a maker club. He is also excited about the integration of arts into STEM and the opportunities for students to connect with STEM concepts creatively.

Schoifet, who is in his first year teaching at Friends’ Central, is thrilled to have joined the staff during a transformative time in the school’s history. He has been invigorated by the school’s commitment to such a groundbreaking educational model.

“The possibility of helping build the CID was a huge draw to come and be part of this community,” he says. “We want to turn it into something that can be a gold standard for other schools to hopefully create their own STEAM-based lab.”

As for the CID itself, Keller believes the center will help attract future students to Friends’ Central.

“This is kind of the prototype and design phase,” he says. “We’re going to observe how we use the space this year, and take that data moving forward into the next stages. It was a lot of work setting up this first phase, but the amount of information we’ll get from this school year and seeing how the kids use the space will help us implement it into the future designs. We’re keeping it flexible and organic, and I think it’s going to continue to change.” ■



From left: David Thomas (CID teacher), Matthew Schoifet, and CJ Keller

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