Learning by Making

Technology taught outside Lamorinda classrooms

By Diane Claytor

Jordan Hart of TechLX works with Lamorinda students Cyril Russell, Luke Schwartz, Zoya Acuna-Kapoor, Julia Waide and Finley Burrows. On the floor are Haelee Chung, Jenna Steele and Maya Schwartz.   Photo Diane Claytor

If you were asked to build a cooler from recycled materials so you could transport Popsicles to your kids' soccer game, would you know what to do? The first step might be to ask one of the 9- to 12-year-olds sitting in a Lafayette home on Tuesday evenings, surrounded by laptops and working with Jordan Hart, co-founder of Oakland-based Tech LX. Considering that the "Otter Pop Challenge" is one of the projects they have worked on during their tech class, no doubt all 17 of the Lamorinda students would be able to help.

Like after-school music and dance classes, technology courses taught by private organizations are flourishing. And, according to Hart, they are a necessity. "We need to teach kids to be creative, to be collaborative, to think critically and to make things, not to sit impassively listening to lectures," he said. Hart co-founded TechLX (Technology Focused Learning Experiences) in 2014 after having spent several years working at summer tech camps. TechLX is designed to go beyond tech camps with the goal of providing year-round project-based technology education through classes as well as helping with technology curriculum development and teacher recruiting. To increase their visibility, Hart said, TechLX partners with schools and other organizations to offer classes in programming, robotics and game development.

And that is how TechLX and Hart came to be in that Lafayette family room.

Robert Schwartz, of Moraga, a former middle school science teacher, high school principal, and educational company executive, started looking for after-school tech-related opportunities for his elementary school-aged twins. "I had seen so many schools that were teaching students how to make things and think creatively and I wanted my kids to experience that too."

Curiosity Hacked, a national nonprofit organization that focuses on STEAM (science, technology, engineering, art and math) education and skill building, had just started in Oakland. Schwartz met with the founder and, because he "likes starting things," partnered with Lafayette resident Jill Marek to form the only Lamorinda Guild of Curiosity Hacked. That first year they had 14 students; last year it grew and this year they have capped the number at 17, with an almost equal number of boys and girls.

Schwartz developed the curriculum, which has included coding basics, sewing, laser cutting, jewelry making, soldering, circuitry, 3D design and prototyping projects. They have built an obstacle course and combat bots; they have had fun with that Otter Pop Challenge. "I know they're not going to remember everything," Schwartz said, "but it's really all about the skills they're getting, how they approach problems, think creatively and work together. Those are the significant values to this program." The guild began holding occasional weekend classes but now run the program weekly from October through May.

Both Schwartz and Marek have other jobs and "we were starting to run low on energy and bandwidth to lead the class every week," Schwartz explained. So he contacted Hart, who last month began teaching a 20-week Arduino Robotics class. For those who may not be quite that tech-savvy, Arduino is a microcontroller board that makes objects interactive. This involves building robots and the remote controls to operate them and includes basic programming, electronics and construction techniques. And it clearly illustrates the belief of both Hart and Schwartz that kids should make to learn.

Baker Sharp, a Miramonte sophomore, learned Arduino robotics from Hart; he also learned Minecraft modding, game design and Java programming and is assisting Hart in the Lamorinda class. His mom, Diane Dwyer, said she absolutely thinks "the classes made Baker far more prepared for the AP computer science class he's now taking."
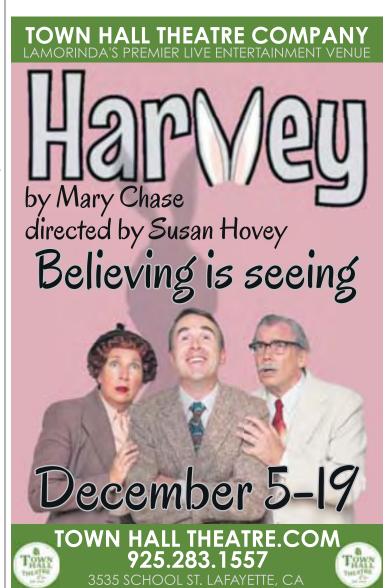
With technology changing so rapidly, the more kids can learn and the earlier they can learn it, the more they will be prepared for whatever the future brings. Code.org states that "every student should have the opportunity to learn computer science. It helps nurture problem-solving skills, logic and creativity. By starting early, students will have a foundation for success in any 21st century career path."