

Empowering the Next Generation of Latinas in STEM Through Making ^[1]

Submitted by [Mónica Ivelisse Feliú-Mójer](#) ^[2] on 30 September 2014 - 11:21pm



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Foto / Photo: Luz Rivas, DIY Girls

During National Hispanic Heritage Month, [Ciencia Puerto Rico](#) ^[3] and [Borinqueña](#) ^[4] are celebrating the work of organizations inspiring, supporting and empowering Latinas in STEM fields. You can read this profile in Spanish [here](#).

We all have the ability to create. To innovate. To make. The organization DIY (“Do-It-Yourself”) Girls is helping Latina girls embrace their inner maker to promote early engagement in and exploration with technology, build self-confidence, and support aspiration to careers in STEM (science, technology, engineering and mathematics).

DIY Girls’ mission is to increase girls’ interest in technology, engineering and the-act-of-making through hands-on educational experiences. The after-school program allows girls to design and make toys, program their own video games, design creative inventions with conductive paint and make wearable electronics products, among many other activities.

“We want to inspire women and girls to learn technical skills and make real products. We want to help young girls find new ways to create, build and experience technology—from 5th grade to high school graduation,” says Luz Rivas, founder of the organization.

Rivas, an engineer and educator, fell in love with computers when she was in 5th grade, after learning how to program. She credits that early exposure to technology for her decision to pursue a technical career and her success. Rivas hopes that the early exposure provided by DIY Girls can accomplish the same for the young women that participate in their programs.

Building on community

After earning degrees from the Massachusetts Institute of Technology (MIT) and Harvard University, and working for technology giants like Motorola, Liz decided to follow her passion and focus on STEM education for low-income students of color.

In 2011, she went back to the Paicoma neighborhood of Los Angeles—where she grew up—to establish DIY Girls. Like most of the girls that participate in their programs, Liz is also a daughter of Mexican immigrants. In addition to being a role model, Rivas is tapping into her community to help girls see themselves as makers.

“The girls we serve are from immigrant communities where men and women are already makers that make their own furniture and other things. We aim to make explicit for girls the connection between making in their community and making with more advanced technology. Instead of only focusing on the disadvantages of their community, our program highlights the advantages including living in a community of makers,” she says.

DIY Girls has continued to grow to provide support to older girls and women. “We are starting DIY Girls clubs that will meet at middle and high schools and will offer girls a way to continue working on projects and mentor younger kids as they go through our program”, adds Rivas. The organization also created a [Meetup](#) ^[5] group for women, which now boasts over 700 aspiring developers, DIYers and technologists with diverse backgrounds and skills. Rivas hopes to develop a community of women that will learn together, collaborate on projects and share their experiences with young girls.

Since 2012, DIY Girls has served nearly 400 girls. Their DIY strategy is paying off.

“At the beginning, two-thirds of girls say they don’t learn much about technology in school and one-third doesn’t know what engineers do. After participating in DIY Girls, almost all of the girls want to continue participating in more science and engineering activities. Almost 70% say they think that they would enjoy being an engineer when they grow up, adds Rivas. “Some girls are interested in combining technology with other interests to create careers that may not exist yet.”

Embracing their inner maker

The work of DIY Girls is inspired by “The Maker Movement”—an increasing number of people who use creativity, do-it-yourself (DIY) techniques and technology to create devices and projects, to innovate.

“As opposed to using old science experiments and other common “engineering” projects like rockets and cars, DIY Girls provides a variety of creative materials and technology along with guidance for participants to create their own products and projects,” she states.

By allowing girls to explore science and technology through hand-on activities, DIY Girls not only allows them to unleash their creativity but learn skills they can apply to their everyday lives.

“Our girls make real things. They learn practical technical skills that can be applied creatively. If you walk into our space you’ll see 30 girls coding, soldering, building electronic circuits, using a 3D printer and building with power tools. Girls are learning by doing while applying the math and science they learn in school. They’re gaining confidence and practical in-demand skills for 21st century careers,” concludes Rivas.

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