TASIS' Fab Lab Helps Students of All Ages Experience the Thrill of Creativity

BY B. G. DOYLE

Fab Lab participants

Celebrating its 15th year as an educational leader among Puerto Rico's private schools, the TASIS School in Dorado is about to unveil its Fab Lab program, associated with the Massachusetts Institute of Technology (MIT). This will be an innovative platform where students from all grades take advantage of high-tech tools, equipment and software to invent, create, solve problems, understand the engineering design process and turn their ideas into reality.

"This puts us on the cutting edge of STEAM education, integrating science, technology, engineering, art and math," said Susan Fiallo, director of Curriculum and Special Programs at TASIS Dorado. "We are very excited to be opening a new space in which students can gain experience with the latest in technology, while developing skills in research, design and creative problem-solving."

According to MIT's website, the Fab Lab concept started as an educational outreach component of its Center for Bits and Atoms, and was designed as a prototyping platform for innovation and invention, while creating connections to a global community of learners, educators, technologists, researchers, makers and innovators. And while Fab Labs are currently run by universities, public and private schools, research organizations and other entities interested in providing advanced technical-education support, each Fab Lab is generally equipped with 3D printers, laser cutters, scanners, computer numerical-control machines, robotic technology and other tools to help participants in their research and development efforts.

"Our Fab Lab is a place where kids can apply the problem-solving strategies they learn in their core academic classes," Fiallo said. "In other words, they can put their imaginations to work to design, prototype and test their ideas by using the technology tools we provide."

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According to Cristina Centeno, the Fab Lab manager & tech instructor at TASIS Dorado, the program opens up a world of possibilities for both TASIS Dorado students and members of the local community. "Students are asked to identify an issue or problem in the community, then come up with a solution they can develop in the Fab Lab," she said. For example, one group of high school students will be tackling an environmental issue by developing a compact hydroponic solution for growing vegetables in one's home. Another environmental-based project will use 3D printer technology to create an irrigation system. In the area of research and engineering, some students are designing phone speakers, learning how sound waves, physics and geometry interact to amplify sound. Biology and chemistry students can create 3D models of molecular structures and processes to enrich their understanding.

The Fab Lab facilities and technology will also be made available to members of the community on certain days, giving others the opportunity to take advantage of the platform. "To be part of the global Fab Lab Network, local Fab Labs must meet three requirements: engage the community, actively participate in the network, and obtain the standard Fab Lab equipment," Centeno said. "That way, everyone in the global Fab Lab Network is at the same level and can