

■ quickwire

3D Ideas

Turning Hawaii Students on to Computer-Aided Design

Collin Kobayashi loves the reaction he gets from students when he shows them how they can create their own products on the computer — and then print them out in 3D models.

“They are blown away by the stuff they can make,” says Kobayashi, who is the founder and CEO of 3D Innovations, which offers training in 3D computer-aided design, or CAD, in Hawaii’s schools.

“It’s hands-on, that’s the main thing,” Kobayashi says. “This shows students how they can design something with software, how they can test it using different weights, or tensions, to see if it works. And then they get to actually build it with 3D printing.”

3D CAD has become the industry standard in everything from engineering to product design to aerospace. But when Kobayashi graduated from Molokai High and went to the University of Advancing Technology in Arizona, he quickly realized he was missing the 3D CAD experience of his Mainland peers. After returning to Hawaii and working in the industry for more than a decade, Kobayashi founded 3DI with the aim of bringing the latest technology to Hawaii students and opening their eyes to the opportunities in the science and technology fields.

In February, 3DI launched with a program in partnership with isisHawaii at Highlands Intermediate. While the school system is facing hard budget cuts, 3DI has been able to grow this school year, continuing the program at Pearl City High and expanding into other schools.

At Highlands, Kobayashi partnered with science instructor Alika Ahu to show students the CAD applications for the principles they were learning. For a section on erosion, students used their computers to design their own products to mitigate the effects of runoff. When learning about solar energy, they calculated the best way to arrange panels on a roof to optimize power generation. The most popular activity was printing 3D prototypes of their creations.

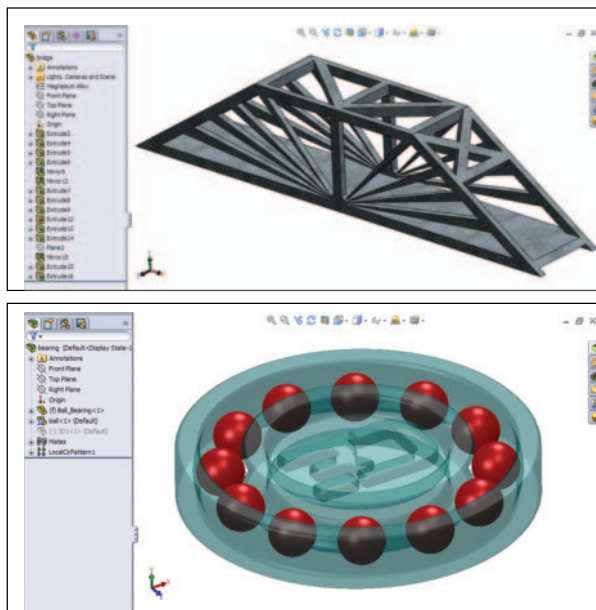
Using either a powder- or plastic-based printing process, Highlands students turned out everything from key chains to iPod cases to beverage bottles.

“When they can make their own things, they have ownership of the learning process,” Kobayashi says. “That’s exciting because it engages them, makes them more involved and they want to create more.”

3DI also provides professional-development classes for teachers and Kobayashi augments the company’s education arm with his industry consulting services.



3D Innovations, LLC



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Crunch

PROJECTING TECH'S GROWTH

1.3 The estimated annual percentage growth in Hawaii’s economy between 2007 and 2017.

1.9 Growth in the tech industries during the same time period.

2.1 The estimated annual percentage growth in the private-sector portion of the tech industry during this time.

46 The percent rate at which tech industries are expected to outpace the rest of the economy during the next decade. Private-sector companies in the tech industry are expected to grow at a rate that is 61 percent faster.

\$45,963

Average annual earnings per worker for all industries in Hawaii in 2007.

\$68,935

Average annual earnings per worker in Hawaii’s technology industries in 2007.

Source: Innovation & Technology in Hawaii: An Economic & Workforce Profile by the Hawaii Science & Technology Institute.

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