



Grant Wolfe, left, holds down a piece of wood as Eric Keis screws it down before they use a ShopBot tool to cut a design into the last pieces of a lazy susan Tuesday at Belton High School. (Josh Bachman/Telegram)

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## A 21st century woodshop class at Belton High: Students use ShopBot to create masterpieces

BY JEFF OSBORNE | TELEGRAM STAFF

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Mayan masterpiece

What's taking place in the Career and Technology Education building at Belton High School is enough to make some colleges envious, preparing students for future success with state-of-the-art technology.

Scott Herald, director of Career and Technology education for BHS, said some representatives of some universities have toured the Belton campus for ideas on how to improve some of their programs.

One of the latest additions to BISD educational arsenal is a CNC (computer numeric control) machine, also known as a ShopBot, which can carve intricate designs into wood, metal, plastic or glass that are retail quality.

In fact, Craig Sullivan, a teacher who specializes in construction management and advanced construction management for BHS, said the goal is to be able to sell items that students produce, and use the money generated to help sustain the program.

At a time of state budget cuts, finding alternate sources of revenue for school programs — especially programs in the career technology department (which are considered non-core classes, unlike math, science, social sciences and language arts) — is more important than ever, Sullivan said.

He noted that students are also using knowledge gained in those core classes while operating the CNC machine.

“I use trigonometry every day in calculating the measurements (entered into a computer which tells the ShopBot what to carve),” said BHS junior Grant Wolfe.

Sullivan said students began using the CNC this year, and some of their creations have sparked students' imaginations and fueled their creativity.

“We have students lined up to use this machine,” he said. “What it does is amazing.”

He showed an intricate Mayan calendar which Wolfe carved using the ShopBot that looked like a work of art.

“It took four hours for the machine to do that,” Wolfe said.

Asked how long he estimated it would take a person to carve the same calendar using traditional tools, Wolfe laughed.

“Probably about five years,” he said.

Sullivan admired the workmanship of the calendar.

“Can you believe this took four hours?” he asked. “The detail is unbelievable.”

Sullivan said students can download clip art and enter the dimensions into a computer that directs the ShopBot.

“We basically provide the equipment and the students are able to do fantastic things. It's really incredible what they can do with it.”

The \$15,000 machine has become so popular the program is hoping to add another ShopBot next year.

“They are adding new classes to make use of the technology. The demand and interest is very high,” Sullivan said.

Students in Sullivan’s classes are currently involved in a five-week project to design their own robot, and once again, the ShopBot is part of the process.

“We didn’t realize it was going to be this big,” he said. “We definitely have room to expand the program, and it’s going to be something else.”

Sullivan said he’s been teaching at Belton ISD for 28 years, and he’s enjoying it now more than ever.

“It’s becoming really fun,” he said. “The district has really gotten behind us and have given us such great support, and what these kids can do is simply amazing.”

Eric Keis, a junior at BHS, said he never envisioned being able to use the ShopBot to create intricate designs, but he’s learning and having fun in the class.

“Just being able to actually use the equipment has been great,” he said. “The experience I’m getting from this class can help me later in life, too. I’m planning to be an engineer, and this knowledge will definitely benefit me.

“It’s great to be able to make cool designs and practice with the software. There’s a lot of measuring involved to get things just right.”

Keis said he enjoyed making plaques given to each school board member at a recent meeting of the BISD board of trustees.

“I enjoy working on cutting the 3D designs,” he said. “I’m also working on a domino set and experimenting with a lot of different things.”

Wolfe, who is designing his own Les Paul guitar and plans to make one using the ShopBot, said there’s virtually no limit to what can be created.

“You’re only limited by your own imagination,” he said. “I got on the internet to help me figure out how to use the machine, and I’ve gotten a lot of experience.”

He and fellow student Robert Pruitt have even talked about going into business together one day, creating and selling their handiwork.

“This is the coming thing,” Sullivan said. “This is where industry is going. One of these machines can do the work of 20 people. And we’re talking about a student using a keyboard.

“I don’t have any shortage of students wanting to use the machine. Any time they’re out of class — during my conference period and lunch hour — they’re here.”

Wolfe said students have only scratched the surface of what they can accomplish using the machine. “It’s really an awesome piece of equipment, and I’m glad I have the chance to use it,” he said. “We’ve already done so much, and I can’t wait to see what else we can do.”



## *Mayan Masterpiece*

Grant Wolfe, a junior at Belton High, used the ShopBot tool to create a Mayan calendar. (Josh Bachman/Telegram)