

Teachers rock STEM education at Guitar Project in Wilmington



Teachers from across the country came together this summer at Mount Pleasant High School in Wilmington to build electric guitars – guitars constructed with the same precision needed to create the great music and art they represent.

“I have friends who played the guitar I made in the program and cannot believe the quality, craftsmanship, or playability of the guitar,” said Mac Emerson, a Construction Technology teacher from William Penn High school in the Colonial School District. “They find it hard to believe I have not been making them for several years, let alone that this is the first one I have completed.”

Emerson and 13 other teachers built guitars during the national STEM Guitar Project, a five-day professional development opportunity held in Delaware for teachers to learn how to better engage students and spark excitement in science, technology, engineering and math (STEM) education.

During the event, participants learned how to develop STEM-related lesson plans while crafting their own electric guitars, some with pink or purple marbling and others in natural wood grain. The idea is that educators who know how to have fun with STEM can better show students the benefits of STEM education.

Electric guitars are a natural fit for this work, said Doug Hunt, an Engineering & Technology Education teacher from Southern Wells Jr-Sr High School in Indiana and a trainer for the National STEM Guitar Project.

“Building solid-body electric guitars brings together a number of aspects of STEM,” said Hunt. “First is the engineering design aspect. Then there are other science and engineering concepts like forces on materials. The design of the guitar also must take in to account certain mathematical certainties.”

Emerson, who played a guitar several years ago, said he is ready to begin playing the instrument again after attending the event.

“I learned the dynamics of guitar building including the time it takes to complete an instrument that is high quality,” said Emerson. “People tell me my guitar is just as good as the high-end, big-name guitars they own and play all the time.”

Emerson also has a new outlook on STEM education.

“This experience has changed my mindset,” said Emerson. “I’ll be enlisting the help of math, science, and engineering teachers to collaborate and get involved in STEM education programs in my own school now, too.”

The National STEM Guitar Project was hosted in partnership by the Delaware Department of Education and the NSF Advanced Technological Education (ATE) Centers with a grant from the National Science Foundation.

Check out pics of these amazing teachers with their hand-made electric guitars: <https://www.flickr.com/photos/tjflickr/albums/72157686553608665>. For more information on the national STEM Guitar Project, visit www.guitarbuilding.org.