Jamestown, one of the westernmost cities of New York State, looks to prepare its high school students for the jobs of tomorrow through engaging classroom experiences

Written by Linda Calabria

Situated between Lake Erie to the north and the Allegheny National Forest to the south, Jamestown is the largest population center in Chautauqua County.

In the 20th century, Jamestown was a thriving industrial area, noted for producing several well-known products. Jamestown was also once called the "Furniture Capital of the World" because of the once-thriving furniture industry.[2]

Jamestown High School is a part of the Jamestown City School District which has about 5,100 students. In addition to the standard courses of history, math, science, and English, Jamestown High School teaches courses covering many different areas of art and music. [3]

Scott VanStee is one of the technology teachers at Jamestown High School and knows the importance of teaching through hands-on learning, while sharing his own industry experience.

"I was in business for 22 years before I came into teaching. I had a furniture factory in Jamestown, it was in my family, and I was a fourth generation, so I come out of the manufacturing end of things. We were certainly starting to get a little more technologically advanced but with our whole industry moving mostly overseas it forced us to close.

This is now my 20th year teaching and I love the challenge and I love bringing in new technology to the classroom."

With his can-do attitude and the support of the district, he's been able to gain access to several new pieces of technology which allow him to have a more engaging conversation around, what some might consider, advanced topics. Through products that have an industry connection, like the NeuroMaker HAND, VanStee is able to involve his students in hands-on, real-world, learning.

The NeuroMaker solution comes with hardware, software, professional development, a capstone project, and curriculum which can easily complement an existing lesson plan or be used on its own.

Joshua Varela, the Associate Director of Partnerships for the Northeast, is quick to point out that this isn't just a STEM kit, but one built around project-based learning, collaboration, and intended to help the STEM landscape be more accessible, diverse, and equitable.

"We at NeuroMaker believe there is so much untapped innovation throughout the country. To cultivate this innovation, we need to ensure STEM is accessible and is not segmented. STEM skills are the life skills of the 21st century and equity is non-negotiable."

While industry continues evolving towards a more technologically advanced future, STEM jobs continue growing faster than the talent that is available to fill those jobs due to STEM courses not being offered to all students. However, the Board of Education in Jamestown takes equity, inclusivity, and diversity very seriously by stating that,

"Equity in education is about providing each student with what they need to succeed. Equality is treating everyone the same. But not everyone starts at the same place, and not everyone has the same needs.

The goal of the school district is to provide equitable, inclusive and diverse opportunities for all students to reach their highest potential."

To best prepare their students, Jamestown High School has a program called "Academies," at the high school, which students sign up for in their freshman year. Students have six academies to choose from:

1.) Pre-Engineering, Manufacturing, and Industrial Technology
2.) Communications, Performing, and Visual Arts
3.) Natural Sciences/Resource Management
4.) Business, Marketing, and Technology
5.) Pre-Law and Human Services
6.) Pre-Med and Health Sciences.

The students go on field trips and tour manufacturing facilities within their community to show them the different types of careers available within any one facility.

Unfortunately, due to the pandemic, these in person tours have gone virtual but the hope is to return to in person as soon as it is safe to do so. Programs such as these encourage students to take their skills to the next level and experience first-hand how important communication, teamwork, problem solving, leadership, and self-management are in real-world scenarios. VanStee is contributing to this by teaching these key skills in his classroom and adds,

"I want to show my students that the jobs out there aren't just going to be you taking a widget and moving it from one place to another, it's more than that these days. I was intrigued by the assembly aspect of the NeuroMaker HAND because I knew I could connect it to ladder logic.

You have to do things in order, and it allows you to talk about why that's important and that it's not just putting something together but needing to understand the 'why.'"

VanStee's students are getting the opportunity to not only explore what it means to have experience in digital literacy and project-based learning but how design thinking works and what part empathy plays in product design. While working on building the NeuroMaker HAND, conversations around limb difference, the need for prosthetics, and how one might communicate with the help of such assistive technology evolved.

"We started out by doing a rock, paper, scissors contest and then from there I made the students do as much of sign language with it as they could, which we learned was not easy in some cases because you have to turn your hand or make a more complex movement.

The kids were very engaged in the building and the activities that we worked on and I had a number of students who liked programming through mlink."

It's easy to see that by exploring different avenues geared toward engaging students in STEM related topics Scott VanStee is able to help his "kids" to better figure out what they want to do, but also, and more importantly, not do in their future careers.

"I like to tell them [the students] this is just one particular thing that we used in a classroom but the sky's the limit on what we can do with this. It's definitely something that a kid could get their head wrapped around in a classroom, but I like to tell them this is just their jumping-off point."

Like many schools and districts have experienced, their overall attendance has been poorer than usual this year as the pandemic continues to impact in person learning. However, VanStee's student numbers have grown for next semester, and he will be able to offer two sections of his technology class.

"Students that have popped into my room, always see the hand on my desk and ask about it. They ask me what course I teach that uses the hand. These are not current students, so it has created some great interest in my class."

Scott VanStee wants to continue pushing the envelope and remain above the curve with the technology he introduces in his classroom so that his students can help Jamestown, and other parts of the country, thrive and close the growing STEM gap.

1. Image credit: https://blog.artonemfg.com/blog/made-in-america-jamestown-ny-furniture-industry-part-2
2. https://en.wikipedia.org/wiki/Jamestown,_New_York
3. https://en.wikipedia.org/wiki/Jamestown_High_School_(New_York)
4. Student images taken by Scott VanStee