

CASE STUDY

Accelerating Education by Providing More for STEM Classes with Virtual Reality Technology

The Challenge

Time and money prohibit STEM lab learning opportunities.



The Solution

Through zSpace Virtual Reality STEM Labs, students work in pairs to problem solve with experiments that are normally too elaborate, expensive, or dangerous for the classroom.

Students racing to get to class? That was the scenario when Plainview-Old Bethpage Central School District in New York introduced zSpace, a virtual reality technology that allows students to create, test and experiment in an interactive, 3D world. For the 2014-15 school year, students learned science concepts using the zSpace STEM Lab, which consists of a set of virtual reality stations, each outfitted with an interactive stylus as well as a wide variety of educational software ranging from life science to physics and engineering.

Now, at the tail end of their first year using the technology, teachers and administrators recognize that the excitement has led to more in-depth and engaged learning in STEM subjects than they have seen in the past. “What I love about zSpace is the collaborative approach,” said Assistant Superintendent for Curriculum and Instruction Jill Gierasch. “Two students, one with the stylus and one with the glasses can work on a lesson together to problem solve. Those inquiry skills are second to none with a device like this.”

Virtual experiments also led to much more advanced learning than would ever be possible in a typical classroom. Sixth-grade students used zSpace software called “Franklin’s Lab” to experiment with electricity boards. They then transferred those skills to the real world as they designed their own electricity boards in the school’s tech shop. Students then returned to zSpace to advance their design further, using techniques and materials that would be cost-prohibitive and even dangerous if used in real life.

Jordan Pekor, an Advanced Placement physics teacher, was able to conduct experiments with his high school students that he would have never had time for in the past. “You can get a lot more done in your 42-minute period. Setting up some of these labs would be impossible in those kinds of time frames. Instead, you set it up in zSpace, the students walk in, and it’s all ready to go.” The heightened student engagement and inquiry, plus the time and money saved on advanced experiments, have transformed learning for students at Plainview. As one student explained, “You can see what works and doesn’t work. Everyone’s learning. Together.”