zSpace

CASE STUDY

Florida School District Transforms Career Technical Education with AR/VR from zSpace

The Challenge

Finding a technology tool that would support the district's 62 Career Technical Education programs, ranging from aerospace to veterinary technology.

The Solution

Leveraging state and federal funding sources to support zSpace Labs for eight (8) district schools.

St. Lucie Public Schools in Florida, serves more than 40,000 students on the state's east coast. The district has a steady immigrant population and 75.5 percent of students are eligible for free or reduced lunch. Career and Technical Education (CTE) is a high priority at St. Lucie. The district offers 62 programs, including everything from Aerospace Technologies and Allied Health to veterinary technology and web development.

Michael Carbenia, the district's CTE Director, was looking for a technology tool that would support these programs and fit within the district's budget.

St. Lucie turned to zSpace. zSpace combines elements of augmented reality (AR) and virtual reality (VR), on an all-in-one computer, to create lifelike experiences that are immersive and interactive for students across multiple grade levels and subjects. Used in a lab environment, two to three students share a zSpace station. While one student lifts, turns or takes apart virtual objects using an interactive stylus, the other student makes observations and records data. Students wear custom tracking glasses, so they can all see the images floating above the screen and collaborate on the assignment.

St. Lucie's first zSpace implementation was at Manatee K-8 and Oak Hammock K-8, where zSpace was rolled out in three (3) CTE-related programs: a pre-veterinary program, a technology class for third, fifth and eighth grade students and in a makerspace for third, fourth and fifth grade students.

The second implementation was in its high schools. Treasure Coast and St. Lucie West Centennial High School each received ten (10) zSpace systems to support Allied Health programs. In these programs, students can earn a number of industry certifications. These certifications include certified medical administrative assistant, certified nursing assistant, certified first responder and certified echocardiogram technician. Using the ECG software and Visible Body, students were able to explore and interact with the human body with a higher levl of rigor compared to traditional classroom models.

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The district was creative in looking for sources to fund the zSpace labs to support its CTE programs. For the five (5) original schools with zSpace labs, St. Lucie purchased the technology with funds from several different sources. For example, the Florida Department of Education has a funding intuitive called the Career and Professional Education (CAPE) Act. This program allows districts to generate funds for every student that earns an industry certification. If a student earns an Adobe Photoshop or a Microsoft Office certification, the district generates revenue. With more than 50 different certification programs, St. Lucie was able to purchase some of its zSpace labs through this program. The state also offered a digital classroom funding program at one time and St. Lucie used some of those funds as well as dollars from the federal Carl D. Perkins Career and Technical Education Act program to support its initial zSpace implementation.

More recently, a grant from the U.S. Department of Education's Magnet Schools Assistance Program (MSAP) will support expanding zSpace labs to three (3) more St. Lucie schools in 2018. The intent of this federal program is to support the elimination, reduction, and prevention of minority group isolation in elementary and secondary schools with substantial numbers of minority group students. To qualify for the program, a school must have a minority population of more than 70 percent and three (3) St. Lucie schools meet that qualification.

Then St. Lucie leaders answered the federal program's question, "If we gave you this money, what would you do with it?" by proposing program with a firm foundation in STEM and STEAM. The goal was to reinvigorate these three (3) schools with transformative technology. One, an arts magnet school, has been on the decline and the plan is to revive it with true performing arts. The other two (2) schools are what Carbenia described as "C" grade schools and the plan there is to infuse learning with technology – such as teaching with Minecraft in math class and learning science with zSpace.

St. Lucie was awarded the MSAP grant in November 2017 and is now in the planning phase of implementation with the goal of debuting zSpace in the three (3) additional schools at back-to-school in August 2018.