



Case Study: Delaware Valley Regional High School Frenchtown, NJ

NJ District Facilitates Inclusion of Students with Special Needs Through Audio



Issue

Delaware Valley Regional High School (DVRHS) was unable to provide adequate services for its students with hearing impairments. As a result, the New Jersey school was spending up to \$40,000 a year in outplacement costs to send these students to other districts in the state. To reduce this expenditure, & address technological limits in their classrooms, administrators decided to implement a high-quality audio system school-wide to provide equal learning opportunities to all students. Located in a rural area of Hunterdon County, DVRHS is one of five high schools that serves about 1,000 students. With its small size, staff is limited and class sizes can run as high as 25 students. With less time for individualized instruction, DVRHS staff has made enhancing the delivery of education a top priority.

Working toward this goal, staff at DVRHS knew they needed to provide a system-wide audio solution to facilitate all types of learning in both general and special education classrooms. *"We had a couple of issues, but our primary focus was creating a learning environment that could accommodate students with hearing impairments,"* said Matt Cirigliano, information technology manager at DVRHS. In addition, Cirigliano wanted a product that was compact, lockable, and easy to install. He researched products that would not only meet his equipment criteria, but also would provide DVRHS with flexibility for classroom activities in both general and special education classrooms.

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Implementation

To provide greater audio coverage, Cirigliano purchased 60 Infrared Classroom Audio Systems (PAIRSYSBCS) with four ceiling speakers, developed by Califone International, Inc. Designed to assist classroom learning and student comprehension, the Infrared Classroom Audio System delivers amplification from two wireless mics, as well as audio played from computers and other sources, such as MP3 players. In addition, the product's four ceiling speakers are engineered with a frequency response optimal for vocal reproduction and multimedia presentations. With the speakers' superior coverage, they can immerse a classroom in a compelling audio experience.

With richer audio, DVRHS uses the Infrared Classroom Audio System to help improve academic achievement, on-task behavior, attention to verbal instruction, as well as reducing vocal strain and fatigue on teachers. The system also is compatible with PC/MAC teleconferencing systems, allowing the entire class to participate in distance learning activities. *"Having used Califone products for the last 10 years, I knew the Infrared Classroom Audio System would be a great product that would last,"* said Cirigliano. *With this product, the speakers actually look like they are part of the classroom and integrate into the room well."*

Results

Since a school-wide installation proved costly, Cirigliano researched different types of funding for the purchase. Already limited in New Jersey, American Recovery and Reinvestment Act (ARRA) funds can only be used for special education purchases, not something multi-beneficial. Realizing federal grant money wouldn't be an option, DVRHS administration turned to the Board to Education for funding.

"Our administration asked the Board of Education to make a commitment to equipping the building with a system that would accommodate students with hearing impairments long-term," continued Cirigliano. *"Since we had been spending up to \$40,000 in outplacement costs to northern New Jersey, installing the systems would pay for itself in a year."*

With its easy installation and detailed instructions, DVRHS appointed an in-house maintenance team to install the audio systems. Over the course of a summer, they were able to finish 90 percent of the installations, which resulted in providing 60 classrooms with enhanced audio capabilities. With the Infrared Classroom Audio Systems installed, the school had to consider teacher training. *"We had a deaf education specialist speak with teachers on how to speak properly in order to provide benefits for students with hearing impairments,"* Cirigliano shared. *"She was impressed with the Califone system, and recognized that the systems can provide rich learning experiences to all our students."*

Each teacher can connect their laptop, equipped with iPod, DVD/VCR and camera connections, to an installed Classroom Infrared Audio System. With its versatile capabilities, educators are able to incorporate rich audio or video activities into daily lessons, or set up virtual conferences with other classrooms via Skype.

Having the speakers in most classrooms allows all students to benefit from the enhanced audio, removing barriers between general education and special education classrooms. *"We also wanted the audio systems in place for an extended learning program we host during the summer for students with special needs,"* said Doug Sanford, building principal. *"Over the course of the summer, teachers went from 'why do I have to use it,' to 'can I use it all the time.'"*

The Infrared Classroom Audio System is helping teachers enhance the classroom environment through multimedia-rich lessons. For example, in science, anatomy or physiology classes, stethoscopes can't be provided to every student, and showing the process of blood flow on video doesn't provide the same experience as hearing the "whish" of blood pumping through the stethoscope. With the new audio system, students can hear the same sounds through large, exterior speakers, which fill the entire room with sound. *"Hearing the thumping heartbeat and rush of blood really brings the student into the learning experience,"* Sanford explained.

Similarly, the audio system is used during oceanography class while students watch videos about fresh bodies of water. While computer speakers don't produce much sound, the amplification of the Infrared Classroom Audio System makes the videos exciting for students. *"With the sounds of the ocean broadcast through the product's speakers, students are engaged and experience what the ocean really sounds like,"* continued Sanford. *"The 44-minute lessons are much more valuable to them when they're immersed in the activity through audio."*