



Case Study: Pennsylvania Virtual Charter School Norristown, PA

Pennsylvania Educator Enhances Virtual Learning Using Digital Microscope

Issue

Pennsylvania Virtual Charter School (PAVCS) offers a unique educational setting – teachers who instruct from home teach students also at home. Although most correspondence is conducted via chat rooms, educators also rely on connecting with students through the use of webcams and drawing spaces to aid instruction.

One of the state's 11 virtual charter schools, PAVCS is a public school serving approximately 4,000 students throughout Pennsylvania. It's desirable option for students in rural areas who are too far from traditional schools. Enrollment is free, and laptops, printers and Internet are provided. PAVCS offers instruction in basic subjects, including physical education, and strives to provide students with the same knowledge and rich curriculum gained at a traditional school.

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— Kay Hollenbach, Science Teacher

While completely virtual, teaching is highly interactive due to the variety of communication channels available to students and teachers (e.g., chat, text, e-mail). Since instruction at PAVCS relies on technology, science teacher Kay Hollenbach knew she would need specific tools to provide her high school students with a robust learning experience.

“Since I teach biology and earth space, it’s really important to show students fine details of materials I can see at home,” said Hollenbach. “I wanted to share my experience with the students, while providing them with the instruction necessary to succeed.”

With key features in mind, Hollenbach researched products that could provide students with an up-close experience in their home. In addition, she wanted to instruct her students with live, interactive examples rather than simply display still images which don’t convey the same depth of experience.

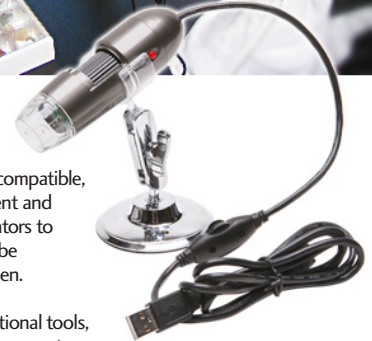
Implementation

To provide real-time display, Hollenbach purchased USB Digital Microscopes (CM1-USB), by Califone International, Inc., for her virtual classroom activities. With the ability to easily project images onto a computer screen, the USB Microscope enables multiple students (online or in a traditional classroom) to view the same examples simultaneously, and helps students to understand classroom concepts using more comprehensive examples.

Although virtual, Hollenbach is able to provide curriculum content to PAVCS students across the state, making the microscope an ideal tool for facilitating student understanding of STEM-related curricula, state standards, and the six goals within the National Educational Technology Standards (NETS), developed by the International Society for Technology in Education (ISTE). Equally important, technology tools like the USB Microscope help PAVCS continue to work toward meeting Adequate Yearly Progress (AYP), as it’s one of few Pennsylvania virtual schools to have met AYP in previous years.



The USB Microscope is Windows 7 compatible, and comes with a new light adjustment and multiple filter choices, allowing educators to highlight different details, which can be captured live or in snapshots on screen.



“I knew Califone specialized in educational tools, but when I learned more about their computer peripheral equipment, I knew they could provide what I needed,” said Hollenbach. “Above all else, I chose their microscope because of the detail it was able to show. I knew I’d be able to share the right experience with my students using this product.”

Results

“Typically, I’m more than eager to try new technology,” continued Hollenbach. “I’ve been encouraging more tech use by providing other teachers with suggestions on how they can introduce the microscopes into their lessons.”

Having implemented the microscope during the new school year, Hollenbach loves the live, interactive opportunity it provides to her science students. “When you think of science classrooms, you think of using microscopes. Using this product has allowed me to have an in-class experience with my students similar to the experience I would have if I were at a traditional school,” shared Hollenbach. “I was really impressed with the product and the software. It allowed me to share what I wanted in a way I normally wouldn’t be able to.”

Hollenbach first used the microscope to have students identify a variety of things, including fibers, fingerprints, leaves and rocks. “They had fun trying to figure out the puzzles,” she explained. “After seeing a close-up of the materials, they would identify what it was, and I shared how we’d tie that identification to upcoming lessons.”

Since it’s easy to hook up, Hollenbach has been using the microscope to show details quickly, and plans to continue using it for similar activities. At the same time, she’s encouraging fellow colleagues to incorporate the microscope into elementary grades, helping to expose younger students to more technology.