

Interactive Products Division Numonics Corporation **Case Studies**



Whiteboard Takes Education to a New Level at West Virginia's Marshall County School District

Case Study by Ellen Kollie

When Bill Burrall first saw a Numonics interactive whiteboard presentation, he knew he had found, as he puts it, "a killer app."

Burrall could have set out to implement interactive whiteboard technology in bits and pieces here and there throughout his school district. But the Coordinator of Instructional Technology thinks big, and the only thing that made sense to him was to purchase and implement the interactive whiteboards throughout the entire Marshall County, West Virginia district. In doing so, he's taken education to a whole new level.



Burrall began by converting an old maintenance room at the Board of Education office into a lab prototype, with the Numonics Interactive Presentation Manager (IPM) whiteboard serving as the focal point.

When incorporated with a computer and data projector, the IPM becomes a powerful teaching tool. For example, by touching the whiteboard surface with an electronic pen, the teacher controls the computer environment in real time. All program functions are transferred to the pen, thus enabling the teacher to stay in front of the class without touching the computer. Plus, it is equipped with 17 user-definable Softkeys, located on

both sides, which teachers can define to launch web sites, applications, files, keyboard commands and 14 different Presentation Tools.

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A Turnkey Solution

"The lab in the staff development room is a conglomeration of the latest technologies, along with software," explains Burrall. "I wanted a turnkey solution where everything could be controlled from one source."

That one source is a high-end Dell, which sits on a desk. Connected to the computer is a surround-sound system, complete with five speakers and subwoofer. Sitting next to the monitor and PC is a VHS player, DVD player with AM/FM radio and TC cable hook-up, and an Avermedia 330 document camera. "We hook a television cable directly to the system for live television, which gives us taping capabilities for educational broadcasts," Burrall describes. "All of the cabling out of the desk goes through the wall and ceiling and links into a ceiling-mounted Epson data projector. There are four buttons on a projector remote control that allow you to toggle between the PC, which includes T-1 speed Internet, document camera, VHS videotape and/or television signal, and DVD player. The projected image, of course, is the Numonics interactive whiteboard."

Also, the district subscribes to United Streaming from the Discovery Education, which provides access to more than 40,000 content videos. "We can download entire video clips or shorter segments," says Burrall. "They're captured and stored in PowerPoint so they can be shown right from the interactive whiteboard."

"I found software — called AB Tutor (at www.abconsulting.com) — in England that allows us to control the 16 PCs in the lab from the presenter PC," says Burrall. "It allows me to project my screen image on the interactive whiteboard and simultaneously to all 16 PCs for a tutorial mode. Likewise, I can select any of the 16 PCs and project it to the whiteboard to show it as an example. Also, the keyboards and mice can be disabled so the class is fully attentive to the point the teacher trying to make."

The 21st Century Classroom

With all this technology, Burrall has created the ultimate 21st century classroom for professional development. In it, educational content is presented via the interactive whiteboard, which serves as the hub for visual learning — delivering a range of applications that require annotation and interactivity by the presenter.

"For example," says Burrall, "when I teach teachers about video streaming, I walk them through how to select, capture, save and then embed video sequences into PowerPoint presentations. The interactive whiteboard makes it easy to not only highlight the steps and choices on the applications, but also run the PowerPoint and touch the whiteboard to pause a video and annotate right on it and then touch anywhere on the slide to clear the annotation and continue the video. That's powerful in a lesson delivery setting!"

Remember, Burrall thinks big, so everyone — even food service and maintenance personnel — has received training via the technology in a variety of ways. Specifically, Plato learning and MS Office training have been taught, and video streaming has been used for grant-writing collaborations, superintendent staff meetings,

Chamber of Commerce meetings, Special Education and Vocational Education training, Web page development and more.

Interactive Whiteboard Technology for Every School

Burrall is now rolling out the prototype in all 15 schools in this district of nearly 5,200 students — putting the whiteboard-centered technology in the hands of the teachers for virtually limitless teaching applications.

"We're setting up one lab per school," says Burrall, "with 20 to 28 PCs per lab. The exception is John Marshall High School, the largest in the district, which will have 10 labs in core curricular areas."

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One of those 10 labs, which is already up and running, is set up in a lecture format with the interactive whiteboard and just one instructor PC. Burrall notes that the board's ability to present large, colorful graphics or text is ideal for keeping students' attention in whole group instruction applications.

Another one of those 10 labs will be in the Automotive Department — an unusual place in which to find such versatile technology. "It will be tied into a remote database called Alldata from Autozone so that students can annotate engine parts," Burrall points out. This web-based service will allow students to call up engine schematics from as early as 1982 vehicles for study. The school automotive shop also has access to Ford Motor Company's database on CDs. These also can be viewed and annotated via the interactive whiteboard.

In the schools, the lab is used for lecture (VWB mode), United Streaming and interactive websites, and it possesses the ability to switch gears to other modes of display. "For example," says Burrall, "while doing a web-based lesson, the teacher can opt to switch the source to the document camera to display a schematic. With the Picture-in-Picture option, the teacher can superimpose the Weather Channel (live television) on the document camera display or PowerPoint slide, thus reinforcing a concept."

Ultimately, applications of the interactive whiteboard are limited only by a teacher's imagination and creativity.

From Big Ideas Come Big Benefits

And the benefits are numerous. "I see the Numonics interactive whiteboard as a motivational tool for the students," Burrall comments. "It engages the learner. I encourage the teachers to put the interactive pens in the students' hands and let them highlight in different colors, or interact with the Softkeys."

Also, the interactive whiteboards are creating equity for all students to learn in new ways and have their education enhanced. Plus, they're creating equity for all the teachers to deliver content in new ways. "It's not designed to replace a textbook, and never should," says Burrall. "But, because it's exciting and visually appealing, it can and does take education to new levels."

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Another benefit is that rich learning concepts can be mingled together from one control source with minimal effort, thus maximizing instruction and affording students a range of learning modes to fit a range of learning styles.

Finally, the IPM interactive whiteboards are providing flexible and creative technology for meeting the state's instructional goals and objectives. In fact, Burrall was instrumental in getting the interactive whiteboards placed on state contract so that districts throughout West Virginia can purchase them with state-supplied funds. "The governor (Joe Manchin III) came to visit, and the Numonics board technology blew him away!" he exclaims.

Clearly, Burrall is a big thinker when it comes to integrating technology with education. With the Numonics IPM interactive whiteboard as a focal point, he is advancing education for an entire district — and even an entire state.