

Interactive Products Division Numonics Corporation **Case Studies**



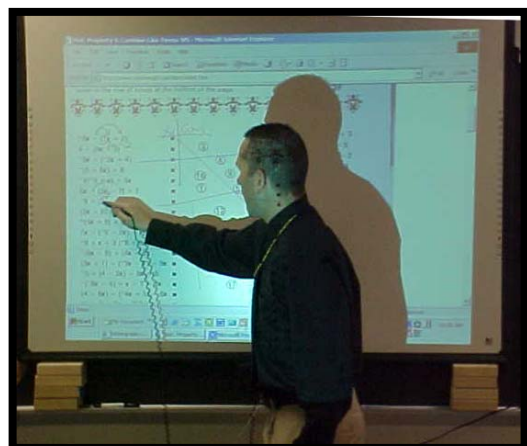
Numonics Interactive Whiteboard Gives Math Class an Equation for Success

Case Study by Susan Brooks-Young

Franklin Regional Middle School, located in Murrysville, Pennsylvania, serves approximately 1,100 sixth to eighth grade students. The school's mission is to "provide a quality education challenging each individual to fulfill his or her potential to become a life-long learner, a responsible citizen in the United States, and a contributing member in an ever-changing global society." They are hitting the mark. The most recent School Report Card shows that 90% of 8th grade students scored proficient or above on the Pennsylvania System of School Assessment (PSSA) mathematics test and 86% scored proficient or above on the PSSA reading test. Academic performance at this level is not accidental. Dedicated teachers, supportive parents, and engaged students all contribute to the school's success.

Christopher Cooley joined Franklin's Mathematics Department three years ago. Cooley began his career in 1997 in Virginia where he taught 5th grade and later 7th grade mathematics. He first used an interactive whiteboard for instruction while working at Liberty Middle School. When Cooley came to Franklin, his classroom was equipped with an interactive whiteboard; however, the existing equipment did not meet his needs. Shortly after arriving at Franklin, Cooley attended a professional conference where he saw a demonstration of a Numonics Interactive Presentation Manager (IPM) 2000.

Compatible with Windows and Macintosh computers, the IPM 2000 boasts a 77" screen and 17 Softkeys which are user-definable. The Softkeys may be used to launch web sites, applications, files, keyboard commands and 14 different Presentation Tools. When connected to a computer and LCD projector, the IPM 2000 creates a large interactive projection screen. Teachers provide technology-supported instruction using an electronic pen that controls the computer environment in real time. Teachers and students may write or draw directly on the projected images. Special note taking software automatically saves notations and drawings so teachers can distribute them for review. Cooley reports, "I



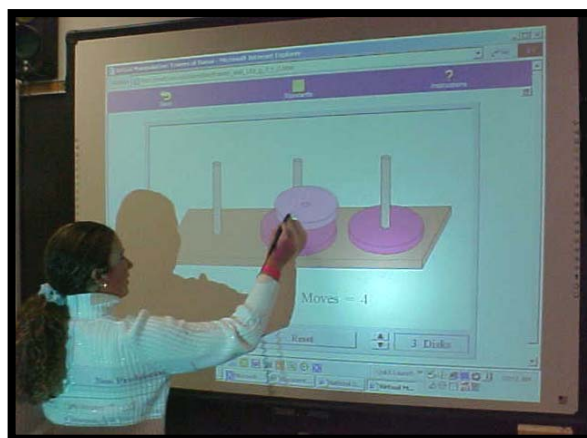
knew that was the board I had to have. I wrote an ING Unsung Heroes grant and the rest is history.” The grant enabled him to purchase an IPM 2000 for his classroom.

“Even the most uninterested students want to take part in classroom activities that use the whiteboard.”

documents he plans to use in class. He explains, “By doing this, the students and I can manipulate the worksheets and activities with the pen mode of the whiteboard.” Cooley uses the color capabilities of the IPM 2000 to highlight critical ideas and graphically illustrate relationships across concepts.

The IPM 2000 also comes in handy for reviewing homework. “In the past, the students needed to follow along as best they could while we corrected homework. Now, I post the homework on my Web page and project the assignment on the interactive whiteboard. Every student can see exactly what’s being discussed and I can use the board to reinforce important points as we go. Even the most uninterested students want to take part in classroom activities that use the whiteboard.”

Cooley teaches 7th grade Pre-Algebra and Algebra. These academically rigorous courses place great demands on students. Cooley uses the IPM 2000 daily to help students grasp abstract concepts. Every morning he spends 15 minutes scanning and saving the



Most exciting of all, Cooley and his students use the IPM 2000 to explore interactive Web sites. The National Library of Virtual Manipulatives (www.matti.usu.edu) provides hands-on tools to create virtual learning environments for students. These activities proved to be so engaging that Cooley wrote a grant in 2005-06 to expand use of virtual manipulatives through a subscription to the Explorelearning site. Students now use online interactive simulations that enrich instruction and enable them to explore concepts through inquiry-based activities. During class, Cooley demonstrates use of the virtual learning environments and students master site basics using the IPM 2000. Then at home students use the sites for extended learning. Cooley reports that, “By using these Web sites and the interactive board, I am able to facilitate discovery learning while using the most exciting and up-to-date technology on the market!”

Impact on teaching:

- Preparation time is very short. It takes just 15 minutes each day to scan and file necessary documents.
- Scanning and saving files ahead of time means there is little or no ‘down time’ during the actual lessons because all materials are just a click away.
- The classroom Web site is now an integral instructional tool at school and home.

Impact on students:

- Increased mastery of abstract mathematics concepts.
- Ability to engage students with a variety of learning styles through use of the IPM 2000's special features.
- Extended instructional day because students access the interactive website at home for additional practice.