

Interactive Products Division Numonics Corporation **Case Studies**



Intelliboard Changes Math and Language Arts Education

By Ellen Kollie

When administrators at Crestview Middle School in Ashland, Ohio, started purchasing Intelliboards (I-Boards) with grant money, teacher Kristina Barker had no idea that a digital interactive whiteboard would revolutionize the way she teaches. It all started innocently enough, in that she volunteered to store a community-use I-Board in her classroom simply because her room was larger than the other teachers' classrooms.

"Once it was in my room," recalls Barker, "I was curious. I loaded the program and started teaching myself how to operate it." Through trial and error, the seventh-grade math and language arts teacher made progress. Now, three years later, the I-Board, manufactured by Montgomeryville, Pa.-based Numonics Corp., is the primary teaching tool in her classroom.

When connected with a computer and projector, the Intelliboard integrates education software and an electronic pen in an interactive whiteboard to bring ideas to life. A teacher simply touches the board surface with the electronic pen to control the computer environment in real time. Specifically, all computer functions are transferred to the pen, such as opening files, running digital video clips, or downloading free content from the Internet, thus enabling her to stay in front of the students, rather than walking back and forth from the I-Board to the computer. She can write and draw over projected images, annotate in color, highlight, cut and paste images, and capture it all for future use or electronic distribution.

Barker uses RM Easiteach cross-curricula software, which can be used across a wide range of grade levels, with her I-Board. Subject-focused toolbars for math, English language arts, science and geography provide all the resources teachers need to create compelling lessons and stimulating activities. In addition, a range of ready-made primary content packs and fun game packs are also available for elementary and middle school education.

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Math Made Simple

“I use the I-Board with math more than language arts,” says Barker, “simply because I teach math four times a day. She uses it in a number of ways, admitting that she’s always thinking of and looking for new and additional ways to use it.

For example, Barker creates problem-of-the-day slides in the virtual whiteboard program. “It’s a real time saver,” she says. “All I have to do is erase my work or the answer, and it’s ready to go for the next class. It’s very efficient.”

One feature Barker appreciates is the ability to change the background to graph paper. “It’s nice to be able to do graphing problems without an overhead projector,” she explains. “I draw an example problem on the graph and have the students solve it with the electronic pen. It’s much more interactive, and the students love doing graphing problems this way.”

Another feature Barker likes is the ability to change the electronic pen’s color. She uses different colors to exhibit different steps in solving an equation. She also uses the highlight tool on the pen to group like terms together. In teaching Algebra, it allows her to show students what can and can’t go together.

“All my vocabulary words for each chapter are now on PowerPoint,” Barker continues, “and I show them on the I-Board. I like that I can tweak the definitions if I need to and save changes immediately.”

The Intelliboard is proving useful for homework, too. Barker scans homework sheets on the school’s photocopier and sends them as files to herself by e-mail. From e-mail, she saves the files onto her computer. In class, she opens the files for display on the I-Board. As she goes over the homework with the students, they walk to the I-Board and fill in the blanks with the electronic pen. “It allows visual learners to see what’s going on and manipulate it,” she notes. As a bonus, the homework sheets are files that she can store and use every year.

Barker has been finding and using more and more interactive Websites to share with her class on the I-Board. One source she uses for locating Websites is <http://www.ohiotreasurechest.org/>. It is a collection of thousands of free Websites, each of which is aligned directly to the Ohio Academic Content Standards in math, science, language arts and social studies.

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One specific site she likes is <http://nces.ed.gov/nceskids/>. “I use it because you can create your own graphs,” she says. “You put in your data and create whatever kind of graph you want, like a pie chart, bar graph or line graph.” She took her class to the library, where they gathered raw data on the numbers of pages in different kinds of books. They used the data to create their own graphs, which they then compared to see which types of graphs best demonstrated the data.

Loving Language Arts

As with math vocabulary, Barker has all her language arts notes on PowerPoint, which she displays on the I-Board. “It’s nice to have everything organized and know where it is,” she explains. But that’s just the beginning of how she uses the I-Board for teaching language arts.

The Intelliboard has a reveal option that allows Barker to show students only as many notes as she wants them to see at a time. It enables her to control how much information they’re getting at one time and reduces the likelihood that they’ll feel overwhelmed.

When it comes to diagramming sentences, Barker uses the Easiteach software and the electronic pen. “I ask students to highlight the subject in pink, underline the predicate in orange, circle the verb in green,” she explains. “It keeps them engaged and allows them to get up and move, and it’s visual. I think seeing information in different colors helps them retain it better.”

Similarly, Barker presents students daily with a sentence full of errors that are corrected with the electronic pen. “They use the pen to move words around and highlight specific words in different colors,” she says. Also, her students use the pen to cut and paste for sequencing events or changing the order of sentences in a paragraph. She especially likes that Easiteach allows for a split screen so that original material can be compared to edited material.

Changes for the Better

The Intelliboard has improved Barker’s students’ grades. “Material seems to stick with them better because it’s not just me up there giving examples and talking,” she points out. “They’re doing it — they’re taking turns coming to the board and solving problems. The action and motion help them retain what I’m teaching.”

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Barker has also noticed that students with behavior problems tend to be the most proficient I-Board users, and that improves their behavior. She explains: “With the I-Board, they are given a way to do something that they haven’t been given before.”

In fact, the students learn the technology quickly and often say, “I found a cool math site online. Can I show it to you?” “It gives them ownership to say that and show me how it works,” says Barker.

The Intelliboard is an obvious tool in using technology to teach. “Our students live in a high-tech world,” Barker sums. “If we don’t tap into the technology, we’re missing out on connecting with them. In order to engage our students and help them learn, we have to use the tools they use.”