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School Blackboards Are Turning White and Interactive

By ERIC DASH

RYE BROOK, N.Y. - For Jonathan Dakers, a sixth-grade teacher at Blind Brook Middle School, the blackboard is a relic, of no more practical value than a slide rule or ditto machine.

"You know what I use the blackboard for?" Mr. Dakers said pointedly. "I use it to hang things with magnets."

As a growing number of teachers have done, Mr. Dakers has all but chucked away his chalk for an expensive computer touch screen he can write on electronically. It is called an interactive whiteboard, and in some school districts across the country, it is quietly replacing the blackboard and overhead projector as the primary method teachers use to present their lessons.

"It really helps bring the learning to life," Mr. Dakers said, referring to the oversized projection screen that is hooked up to a laptop with access to the Internet.

He rearranged the chairs last fall to enable students to see the screen, and has adapted his teaching tactics accordingly.

Consider a recent social studies class about ancient Egypt. Instead of handing out test papers for students to complete at their desks, Mr. Dakers used the interactive whiteboard for a collaborative game of hieroglyphic hangman. As students approached the screen, they used a special marker or pressed a finger against the board to scribble a few symbols in colored electronic ink, like John Madden during an N.F.L. broadcast.

It may be similar to using the overhead projector, but with this digital incarnation Mr. Dakers can tap the touch screen to pull up a photograph of a sarcophagus. He has even integrated video clips. The entire presentation - with notes specific to each class - can then be printed out, published online or saved so that students who are absent or seek additional help can cover the exact same ground.

At upward of \$3,000 to buy and install each unit, the interactive whiteboard can cost as much as a set of textbooks - and there are often training expenses on top of that. As a result, they are found mainly in small laboratory schools and affluent suburban districts like Blind Brook - which now has a total of 30 in its three schools but expects to have one in every classroom within the next few years. As prices fall and technology budgets swell, however, the interactive whiteboard is likely to spread.

So far, more than a half-dozen manufacturers are selling interactive whiteboards to schools, and education suppliers say that units made by

Steelcase's PolyVision, Smart Technologies and Hitachi are among the most popular.

This year, about 45,000 units are expected to arrive in American classrooms, up from just 10,000 in 2000, according to Decision Tree Consulting, a market research firm that tracks global projector sales.

The New York City Department of Education says that it has boards in 231 schools. Meanwhile, foreign governments are integrating the technology into their curriculums and schools. By the end of this year, every school in Mexico should have an interactive whiteboard. And in the United Kingdom, where the average is two for every school, the government is allocating more than \$140 million to buy additional units.

Not every teacher is a fan of the technology. But schools that have bought interactive whiteboards say their use is catching on fast.

"We are dealing with a generation of kids brought up on Gameboys, Nintendos and the latest innovations," said Dean Schnurr, a spokesman for the school system in Loraine, Ohio, which has 20 interactive whiteboards and plans to put one in every classroom in the next five years. "If we can't mimic the environment in our classrooms, it makes it more difficult to reach them," he said of the students.

Luyen Chou, the associate head of Columbia University's new K-8 laboratory school, where a whiteboard was installed in every classroom last year, said the screens were surprisingly popular with his staff.

"Other than e-mail, it has been the most immediately transformative technology used by teachers," Mr. Chou said.

In kindergarten, students drag-and-drop illustrations of apples across the screen as they learn counting basics; another software program helps them visually organize information like the most prevalent eye color in the class by literally stacking data points into a three-dimensional bar graph.

"The Smartboard becomes a way to really publicly share student work," Mr. Chou said. "Educationally, that is a very powerful thing to do."

High school teachers are using the technology, too. At Blind Brook High School, physics and chemistry teachers hook up probes to the interactive board, allowing them to record temperature and motion data and manipulate it on-screen.

At Lower Merion High School, part of an affluent suburban district outside Philadelphia that has purchased about 53 units, some computer and math teachers now solve problems on the projection screens rather than on the blackboard.

"It allows me to draw the equations, diagrams and flow charts I am teaching," said Chris Busza, who teaches both subjects. "Then I can save them and bring them back up when they are reviewing for tests."

But while that might be expected, the way that some music teachers have embraced the technology might not. Josh Hunnex said that in his music theory class, he projects a composition on the screen using special software and then highlights a pattern of notes to show how it is related to another piece.

"It can really help the kids," he said, "especially those who are visual learners."

Of course, its exact impact on learning is still up for debate. Nancy Knowlton, the president of Smart Technologies, which pioneered the interactive whiteboard 13 years ago, said that a "substantial body of research" showed how the technology increased student engagement, improved information retention and student behavior and helped educators work more efficiently.

But educational technology experts say that it is hard to sort out the projection board's contribution from the active mind of the teacher. They are hard-pressed to find rigorous research that directly links the boards to improved test scores.

"This is an instance of technology making things slightly more comfortable." said Cornelia Brunner, the associate director of the Center for Children and Technology in Newton, Mass. "It's not really an innovation from instructional practice."

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