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Interactive Whiteboards: Assistive Technology for Every Classroom

by Alfred N. Basilicato

Life can be complicated in Today's Schools. Sometimes you really should Ask an Expert.

"Teachers need to be attuned to students' strengths and the various learning styles that work best for each individual... Furthermore, teachers must provide access to curricular content consistent with students' ability levels, using assistive technologies if needed." (Wood, 2001).

What is assistive technology? An assistive technology is defined as "an item, piece of equipment, or product system, whether acquired commercially or customized, that is used to increase, maintain, or improve the functional capacities of children with disabilities" (Turbull, 2002, p. 418). Assistive technologies exist on a continuum and can be low-, medium-, or high-tech devices. A high-tech device, like an interactive whiteboard, revolves around electronics or computers (Turbull, 2002, p. 418). The Individuals with Disabilities Education Act (IDEA) of 1997 calls for regulatory action so that students with disabilities are provided with assistive technology to access curriculum (Wood, 2001).

An interactive whiteboard is a presentation device that interfaces with a computer and data projector, creating a large computer image displayed on its surface. The user may access and manipulate computer applications directly from the interactive whiteboard and take notes using virtual whiteboard software that is a part of the technology. This technology can be easily integrated into a classroom to address the needs of all students. "Designing inclusive environments which are accessible to everyone, with or without disabilities, minimizes the need for individual accommodations" (Thompson, 2003) and, therefore, lowers additional acquisition costs for schools.

Technology cannot address all the issues of teaching in an inclusive environment, but it does provide for new and innovative ways to learn. Creative possibilities exist when instructional tools are adapted to meet the unique learning styles of students, permitting knowledge to be shared by all. Technology enables students to engage with subject materials in a way that focuses on their individual strengths (Wood, 2001).

An interactive whiteboard is the perfect facilitator of this type of learning. It can accommodate multiple learning styles including tactile, audio, and visual (Bell, 2002). Studies have been conducted to determine the impact an interactive whiteboard has on students with and without disabilities. The results have been overwhelmingly positive for everyone. Dr. Mary Ann Bell conducted a study for her doctoral research that involved the use of interactive whiteboards in an eighth-grade writing class. Dr. Bell discovered there was a "statistically significant improvement in student attitudes toward both using computers in instruction and towards writing instruction" (Bell, 2002). She observed the board was a "kid magnet" because the students were "wowed" by the board's features and its interactivity. Interactive whiteboards use electronic ink;

thereby eliminating both chalk dust and dry-erase marker smells. The ink colors vary greatly and “research indicates that students respond to displays where color is employed” (Bell, 2002).

Interactive whiteboards benefit all students, but especially those with learning disabilities. A student whose visual or hearing capacity is diminished will benefit from the large size of the interactive whiteboard along with the zoom feature that permits magnification of the image. In addition, class notes may be printed for immediate distribution or transcription, or they can be e-mailed and read online.

There are several U.S. manufacturers of interactive whiteboards that utilize three different technologies. While each company integrates its own software and offers specific features to make its boards unique, each product basically leads to the same result. The decision to purchase a specific brand is often made by a technology coordinator or committee who is not focused on one of the most important aspects of the relationship between teacher and technology. Ease of use for the teacher and the availability of initial and ongoing education at no charge to the school should be of paramount consideration. Unfortunately, the actual users (teachers and students) are rarely consulted on features are most important to them. Additionally, when the interactive boards arrive, minimal training is provided by most manufacturers, resulting in an extended learning curve for the teacher and a poor return on investment for the school. The ease-of-use issue affects every new piece of technology regardless of the marketplace.

“Surveys indicate only about half of U.S. teachers use technology in classroom instruction. Many teachers are still reluctant to use technology, mostly because of a lack of time, a lack of resources, or a lack of confidence in their ability to use the available technology” (Encouraging, n.d.). Technology must be simple to use and intuitive in order for teachers to realize the benefits. Since interactive whiteboards are more complex than the traditional chalk blackboard, schools should focus on the ease-of-use issue and the training options offered by the manufacturer when making a purchase decision. Ultimately, the responsibility for learning how to use interactive whiteboards falls to the individual user. Surveys indicate most teachers rely either on their fellow teachers or trial and error to learn the technology.

Despite these issues, the studies list favorable results for interactive whiteboards as an assistive technology in the classroom. Educators are particularly happy with the improvement in class participation, student attention, and retention rates. The benefits outweigh the technical difficulties of the board (Beeland, n.d.).

Technology need not be designed specifically for students with disabilities in order to benefit them. This concept of “universal design” indicates that, ideally, technology “should be flexible enough to be used by many students for many different purposes” (Wood, 2001). Interactive whiteboards fall into the spectrum of universal design, as they offer the teacher many creative opportunities to develop lessons that are engaging as well as informative and entertaining.

Interactive whiteboards require a dedicated individual who can convey their enthusiasm for the subject to students. The teacher should have an open mind to new teaching methodologies and be versatile enough to incorporate them into his or her curriculum. The features of an interactive

whiteboard will deliver an effective and engaging lesson that will reach all the students in the classroom, making it a very viable resource for both inclusive and regular classrooms. The documented benefits of interactive whiteboards in the classroom clearly outweigh the relatively small cost of the technology.

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