SmartBoard Whitepaper

Prepared by:
Kristal Salyer
Fosheek1@winthrop.edu
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Overview

Interactive whiteboards affect student learning in a variety of ways. The SmartBoard helps to engage students in lessons and helps to motivate students to be more involved in instructional lessons. Interactive whiteboards focus on all learning styles in order to assist all students in the learning process. SmartBoards intensify student interest in otherwise boring content. The interactive boards also foster consistent involvement and help students to stay involved in the lesson for the entire class period. The SmartBoard help teachers to easily prepare lessons by using websites and adapting interactive lessons already prepared by other educators.

Where to Buy? How Much?

There are various companies throughout the nation that can assist businesses and educational agencies in purchasing an Interactive SmartBoard. The companies can be located through the SmartTech website, http://www2.smarttech.com/st/en-US/Where+to+Buy/. The SmartBoard costs between $1,000 and $3,000. There are many accessories that can be purchased to enhance your experience with the SmartBoard. Some of the available accessories are wall mounting systems, training programs, audio systems, and Bluetooth connection kits.

Advantages and Disadvantages of SmartBoard

Advantages	**Disadvantages**
Notebook software 10 that accompanies the hardware has recently been updated and can be easily learned by all users, including "non-technological" teachers. The software includes activities that are readily available to teachers and easily implemented.	The large size of the SmartBoard can be a problem for some users. The SmartBoard does cover an area of 48" to 72" depending on the model purchased. Therefore, the teacher would need to be willing to sacrifice some of their normal whiteboard space for the interactive whiteboard.
The SmartBoard requires that students are responsible for their own learning. The interactive lessons keep students engaged and active in the content for a longer time period.	The amount of light that is exposed into the classroom can affect the ability to see the board clearly. However, if the board is mounted in a location that has limited light, this should not be a major concern.
Due to the interactive component of the SmartBoard, each learning style is implemented and all students are able to gain the content in their own personal way. The lessons grab the students attention and focus on content rather than just having fun. Instead the students are combining having fun with learning.	When children first begin to interact and write on the board it is somewhat difficult. Their handwriting is not as clear as if they were writing on a sheet of paper. As the students interact frequently with the board, their handwriting does improve.

How does it help every students increase achievement?

Perhaps one of the biggest challenges of using the SmartBoard efficiently is to develop consistent interaction between students, teachers, and the content on the board. The interactive whiteboard allows the entire class to view a single board and promotes student engagement through hands-on involvement. Any teacher and a student can interact with the interactive whiteboard at the front of the class and the other students are still actively engaged. The SmartBoard intuitively helps every type of learner including students with disabilities.

Type of student	Benefits
Visual Learner	• Graphic Organizers help the student to organize data and can be data can be manipulated in easily. • Allows student to see their own writing and helps students to retain material, which helps students to retain data.
Kinesthetic Learner	• These students must touch and manipulate content to fully understand concepts presented and the Smart Board allows them to reinforce learning through touch and movement on an interactive whiteboard.
Auditory Learner	• Sound effects engage students • The teacher's voice can be added to lessons to reinforce auditory discussion • The lessons facilitate discussion in class and increases retention on material for auditory learners.
Hearing Impaired Student	• Interactive whiteboard allows presentations of visual material to include sign language simultaneously with a SmartBoard lesson.
Visually Impaired Student	• Provides large text on a large surface. • The colors on the large surface also help students to see material more easily.
ADD/ADHD Student	• Large size and touch sensitivity foster learning beyond the standard computer interaction. • Fewer problems occur due to engagement in the lesson.

NETS Teacher Standards

Facilitate and Inspire Student Learning and Creativity:
Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

The SmartBoard helps teachers to fulfill these standards easily and naturally. The SmartBoard engage students in exploring issues in a manner that is interesting and relates

to real world issues that students deal with. The integration and the use of virtual manipulatives in lessons, fosters the ability of students to construct their own knowledge.

Design and Develop Digital-Age Learning Experiences and Assessments
Teachers design, develop, and evaluate authentic learning experiences and assessment incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS•S

The SmartBoard is a way to provide students with multiple forms of assessment and the teacher is able to provide immediate feedback to assist the students. The teacher is able to see misconceptions quickly and correct the misconception quickly.

Model Digital-Age Work and Learning
Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society

The SmartBoard is a tool that allows students a technological way to communicate content information effectively to teachers. Students can create models, graphic organizers, and pictorial designs quickly and easily to show their understanding of the content

Environmental Factors

One major factor to consider when purchasing a Smart Board is to consider having the board mounted in a permanent location. Smart Boards can be portable and LCD projectors can be portable. However, the boards can easily be knocked out of alignment. If the board and projector are mounted in a permanent location, the board is less likely to be knocked by students and the teacher will not have to align the board often. Another environmental factor to consider when using Smart Boards is the location of the board to the connection for the projector to the Smart Board. The Smart Board and projector must be connected to computer, so users need to choose a location in the class that allow all components to be easily connected.

How do I effectively use the technology?

Smart Boards can be an effective way for students to interact with standard based content in a creative and technological learning environment. Learning activities with an interactive whiteboard may include:

- Making notes in digital ink using Ink Layer
- Viewing interactive websites as a group
- Modeling appropriate use of graphic organizers
- Demonstrating or using software to whole group
- Creating digital lesson activities with templates, images and multimedia
- Interactive responses to websites
- Educational games directly related to topics discussed in class
- Using presentation tools that are included with the whiteboard software to enhance learning materials
- Showcasing student presentations

Many teachers believe that it is difficult to create lessons using the new software that accompanies the Smart Board hardware. However, there are many resources that have already been created by other educators. There is no need to recreate lessons. It is as simple as finding the resources and adapting the content to fit your standards and personal requirements.

This is a list of tutorials to learn how to effectively navigate the Notebook 10 software as well as a list of science websites that can be used interactively.

- Smart Tech training sites-

http://smarttech.com/trainingcenter/tutorials.asp
http://smarttech.com/trainingcenter/online/index.asp
http://smarttech.com/Trainingcenter/LMS.asp

- Electricity-

http://www.mystery-productions.info/hyper/Hypermedia_2003/Thelwell/Site/
http://www.engineeringinteract.org/resources/siliconspies/siliconspieslink.htm
http://classroom.jc-schools.net/sci-units/energy.htm#4

- Light

http://www.learningscience.org/psc1clightheatelectricitymagnetism.htm
http://www.bbc.co.uk/schools/ks2bitesize/index.shtml
http://www.engineeringinteract.org/resources/alienattack/alienattacklink.htm

- Solar System

http://www.harcourtschool.com/activity/moon_phases/
http://www.engineeringinteract.org/resources/astroadventure/astroadventurelink.htm

- Additional resources

http://eduscapes.com/sessions/smartboard/
http://www1.center.k12.mo.us/edtech/SB/SB.html
http://www.education.smarttech.com/
http://smartboards.typepad.com/smartboard/