

Technology Presentation

Digital White Boards

Raphael Gisstand

5150:638 Integrating and Implementing
Technology

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Description: In my Instructional Technology graduate course at the University of Akron, I had to create a video showing my classmates how they can use and implement technology tools and programs into their lessons to teach their students. The technology tool that I educated my peers on was digital whiteboards (smartboards). So, in other words, this was a professional development opportunity for my classmates, in which they learned how to use a new 21st Century technology tool in their classrooms to better engage their students. Digital white boards are educational tools illustrating the displaying of information in digital formats that allow educators to develop interactive lessons using modern technology multimedia forms. Digital white boards are tools that have a variety of functions available to educators for the purpose of integrating technology into educational curriculums. Smartboard technology also complies with the ISTE technology standards.

Impact: Once I found out the advantages of using smartboards in the classrooms, I immediately asked the head teacher in charge of instructional technology at the school that I was substitute teaching at to request an order for some smartboards for the school. The use of smartboard technology gives students hands on learning experiences, while also incorporating audio and visual technology that students are accustomed to using on a regular day to day basis that will keep them engaged and motivated. Digital white board technology has sparked student interest and engages students directly with the content knowledge standards. Digital smart technology increases student participation allowing the students of all learning levels to engage in grade appropriate lessons helping them to gain knowledge and retain it. Effectively using digital technology, in the form of these digital smart boards, helps to enhance student learning in the classroom. This technology has been used in a variety of educational settings focused on its integration and implementation.

Intent: When it comes to teaching our youth in public schools in urban areas, we need to find ways to use and implement 21st Century technology tools and programs into our lessons and curriculum to eliminate the achievement gaps and digital divide gaps. Preparation of educators in all technology areas is critical to the task of contributing to and improving academic achievement levels. Integrating white board technology in the future is vital for educators considering how technology is steadily improving and increasingly impacting how students learn in today's society. Digital smart board technology is useful for teachers to use as an educational tool to fully engage students with content knowledge-based lessons. Educators will accomplish employing the theory and evaluating its application which white board technology helps to synthesize in terms of classroom instruction. Curriculum developers and educational institutions would also be able to incorporate the uses of educational curriculum with digital white board technology. The main reason for creating a video tutorial alongside this WBLS was to show the many ways that teachers can use and implement technology in their lessons using smartboards to keep their students engaged while learning the information within the lesson.

Technology Pedagogy Content Knowledge

Hello,

My name is Raphael Gisstand

The technology topic for this presentation is Digital White Boards (Smart Boards) and how they can be used to positively impact student learning by blending curricula and lesson plan activities using white board technology. Digital white boards are educational tools illustrating the displaying of information in digital formats that allow educators to develop interactive lessons using modern technology multimedia forms. Digital white boards are tools that have a variety of functions available to educators for the purpose of integrating technology into educational curriculums. The structure of the digital white boards consists of computer models or touchpads that can be operated by computers. Educators can offer multiple methods of classroom instruction such as on-hands learning, differentiated and direct instruction, and activity-based exercises. Digital white board technology has sparked student interest and engages students directly with the content knowledge standards. Effectively using digital technology, in the form of these digital smart boards, helps to enhance student learning in the classroom. This technology has been used in a variety of educational settings focused on its integration and implementation. Preparation of educators in all technology areas is critical to the task of contributing to and improving academic achievement levels. Integrating white board technology in the future is vital for educators considering how technology is steadily improving and increasingly impacting how students learn in today's society. Digital smart board technology is useful for teachers to use as an educational tool to fully engage students with content knowledge-based lessons. Digital smart technology increases student participation allowing the students of all learning levels to engage in grade appropriate lessons helping them to gain knowledge and retain it. Educators will accomplish employing the theory and evaluating its application which white board technology helps to synthesize in terms of classroom instruction. Curriculum developers and

educational institutions would also be able to incorporate the uses of educational curriculum with digital white board technology.

ISTE Standards

Sharing of Content Aligned with an ISTE or Industry Standard

Digital White Boards
(Smart Boards)
The Impact on Student Learning

1 Facilitate and Inspire Student Learning and Creativity

d. Model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face to face and virtual environments

2 Design and Develop Digital Age Learning Experiences and Assessments

b. Develop technology enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress

c. Customize and personalize learning activities to address students' diverse learning styles, working strategies and abilities using digital tools and resources

3 Model Digital Age Work and Learning

d. Model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning

4 Promote and Model Digital Citizenship and Responsibility

c. Promote and model digital etiquette and responsible social interactions related to the use of technology and information

5 Engage in Professional Growth and Leadership

b. Exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skill of others.

Research, Articles, Relevant Info (Videos)

1st Journal Article (2010 Research)

The Digital Learning Classroom: Improving English Language Learners' academic success in mathematics and reading using interactive whiteboard technology

<https://www.sciencedirect.com/science/article/pii/S0360131509002590>

Omar S. López

Computers & Education Volume 54, Issue 4, May 2010, Pages 901-915

2nd Journal Article (2017 recent research)

The Effect of Teaching Supported by Interactive Whiteboard on Students' Mathematical Achievements in Lower Secondary Education

<https://files.eric.ed.gov/fulltext/EJ1120218.pdf>

Journal of Education and Learning; Vol. 6, No. 1; 2017

ISSN 1927-5250 E-ISSN 1927-5269

Published by Canadian Center of Science and Education 81

3rd Journal Article (2014 Research)

Preparing Special Education Teachers to Use Educational Technology to Enhance Student Learning

<https://files.eric.ed.gov/fulltext/ED557381.pdf>

Dr. Teresa Wallace and Dr. David Georgina

Minnesota State University, Mankato, 313 Armstrong Hall, Mankato, MN 56001

11th International Conference on Cognition and Exploratory Learning in Digital Age (CELDA 2014)

Demo Lessons

Using digital white boards (smart boards), teachers will facilitate interactive lessons to engage the students with the material taught giving students the opportunity gather information, retain knowledge , probe for answers, work collectively as a team, and use technology to supplement comprehensive understanding of content knowledge.

Social Studies Lesson – Label the US Map using the digital white boards (smart board) technology, 14-15 minutes total

Objective: The student will study the US map in their classroom lesson plans and be prepared for a review session to demonstrate understanding of how to locate states on a blank map. In the review session, the digital smartboards will be the tool used as students will be placed into groups.

Procedure: While in groups, students will be assigned one region at a time of the four regions (Western, Midwestern, Mid-Eastern, and Eastern). The students will be given a digital white board with a blank map and all the states that belong in the particular region. The students will take turns using the white board chalk to plot the names and will instructed by the teacher on whether the answers are plotted properly. The students will learn to self-monitor with other group participants and learn to work as a collective group to complete a finished, properly plotted US map section. Groups will rotate and repeat same action for each geographic location.

Materials: Smart White Board Technology, White Board Chalk marker, Lesson Plan, 4 Group workstations for each geographic location.

Evaluative: Group responses of students and corrected group responses, Teacher observations, Student Questionnaire

Student Questionnaire

1. How useful was the white board to reviewing the US state names? Rate 1 best to 5 least
2. What was an advantage of using the white board technology?
3. What was a disadvantage that was noticed when using white board technology?
4. Would you like to see more lessons using white board technology? Yes or No
5. Was the experience writing with the chalk easily accomplished? Easy Difficult (choose one)
6. Were there technical difficulties while operating or navigating exercises? Yes or No
7. How well were you equipped with knowledge of US states names and how did that prepare or limit you in demonstrating comprehension of material when completing activity?
8. Did the region classification help to easily identify certain states on the white boards? Yes or No
9. Rate the white boards on a scale from 1 very effective 2 effective 3 somewhat effective 4 not effective 5 useless

Demonstration of tool

Digital white boards are educational tools illustrating the displaying of information in digital formats that allow educators to develop interactive lessons using modern technology multimedia forms. Digital white boards are touch sensitive technology forms using digital markers to point, click and drag information on screen projections to supplement classroom instruction providing retention and retaining of lessons. Digital whiteboard chalk allows students the ability to write responses to lessons on screen.

Demonstration of how to use tool in the classroom

Digital white boards are best used in conjunction with classroom lessons and should reinforce content knowledge presented through instruction. Teachers will create innovative lessons that will use the white boards to help students engage with a tool (digital white board) and the material (classroom lesson) simultaneously. Teachers will demonstrate knowledge of white boards, explain how they to be used in conjunction with student participation, and what classroom material is being focused on. The teacher will execute lessons and observe students engaging with the technology form to determine its effectiveness. The teachers evaluate the students based on their participation and performance on tests/quizzes, and student questionnaire responses.

Information on How to Collect Data demonstrating how technology integration impacts student achievement, learning and mastering of objective.

Research what the technology is that would most impact classroom lessons, determine how to use digital white boards to supplement lessons focusing on content standards

Locate educational programs that incorporate digital white boards

Explore websites for video research of technology type on credible sites – PBS, BBC, CNN, MSNBC, etc.

Use the internet to research data on topic and to collect scholarly articles

demonstrating statistic evidence and research

Used ERIC and other databases to obtain information Google Scholar,
Education and Science research databases

Explored internet websites for Teachers including educational databases,
teacher tools online, you tube and education videos, white board learning sites

National Education Teaching Standards, International Society for Technology
in Education

Create Demo Lesson