Advances in Technology in Educational facilities

Addressing Today's and Tomorrow's Security and Learning Environments

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Session

TITLE OF PRESENTATION: Advances in Technology for Security & Learning in Educational Facilities

TAGS: Technology/Work Orders/Automation/Security/Fleet/Procurement

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ABSTRACT: Technology in the Educational realm continues to rapidly advance more than any other sector and with hectic schedules it is difficult to keep up to pace with what is occurring. This session will provide attendees with a review of advancements in education security technology and education learning technologies and how they are improving the educational facilities, reducing costs and increasing the safety, security and learning capacity of students. Examples of topics to be covered in the security realm are; mass notification requirements for first responders, how to protect your campus from hacking and against access card cloning, what are current threats and methods to address each threat. Examples of topics to be covered in the learning realm are; advancements in interactive screens and interactive systems, collaboration systems and methods as well as what systems provide the best outcomes with respect to costs.

LEARNING OUTCOMES:

1). Awareness of some of the advancements in technology impacting everyone, and how and why you need to consider them.

2). Learn how municipalities are enforcing first responder communications in educational facilities and how it impacts you.

3). Understand that most threats are internal and how to leverage technologies to protect your campus from internal threats.

4). Understand new technologies being used for learning and which ones are the most effective.

Agenda/Objectives

- Education Learning Technologies
- Education Security Technologies

LEARNING ENVIRONMENTS

"COMPETING IN 21ST CENTURY TEACHING AND LEARNING ENVIRONMENTS"

How technology can become a differentiator for educational facilities…

Issues:

- Economic downturn
- Reduced funding from State and Federal agencies
- Advance of E-Education (on-line courses)
- Expanding into emerging educational markets
- Reducing operational costs and increasing efficiencies and revenues
- Attracting and retaining students and faculty

How technology can become a differentiator for educational facilities…

Opportunities:

- Advancement of technology in resources and academic programs
  - Attract new students and faculties
  - Abilities to enable formal and informal learning
  - Virtual and online learning and interaction
  - Use of technology to enhance quality of campus life
- Controlling construction costs
- Increase campus security

Identifying learning environments

Dealing with multi-tasking technology generation

- Auditoriums
- Classrooms
- Corridors
- Dining Halls
- Residence Halls
- Outdoors

How do we deliver education?

- In person
- Virtual
- Online and Remote Access

Auditorium Technology

Collaboration Spaces

Classroom Technology

ClassSpot in use at Middle Tennessee State University


design by learning
an exercise in 21st century project based learning
the process
1 views to exterior stimulate a feeling of connectedness to the world beyond the classroom, and provide natural daylighting
7 soft seating encourages the development of important social relationships; movable furniture allows classroom to spill out into shared community space
3 enclaves allow for personal reflection, re-centering, and one-on-one mentoring with faculty
4 acoustical boundaries are important to separate each pair of small "advisories" (16 students each)
5 flexible furniture allows individual and team work; swivel chairs allow students to easily focus where they need to; high tech environment allows for real-time information share
6 project room is shared by two classes for team and individual space to work on large projects; ample storage provides a place to safely keep projects in progress
7 glass overhead doors provide learning transparency and can also open to eliminate physical and noise boundaries
8 recycling zone at entry creates visible consciousness about the materials consumed on a daily basis
project based learning experiences bridge the gap between classroom learning and 'real world'
day1 understand

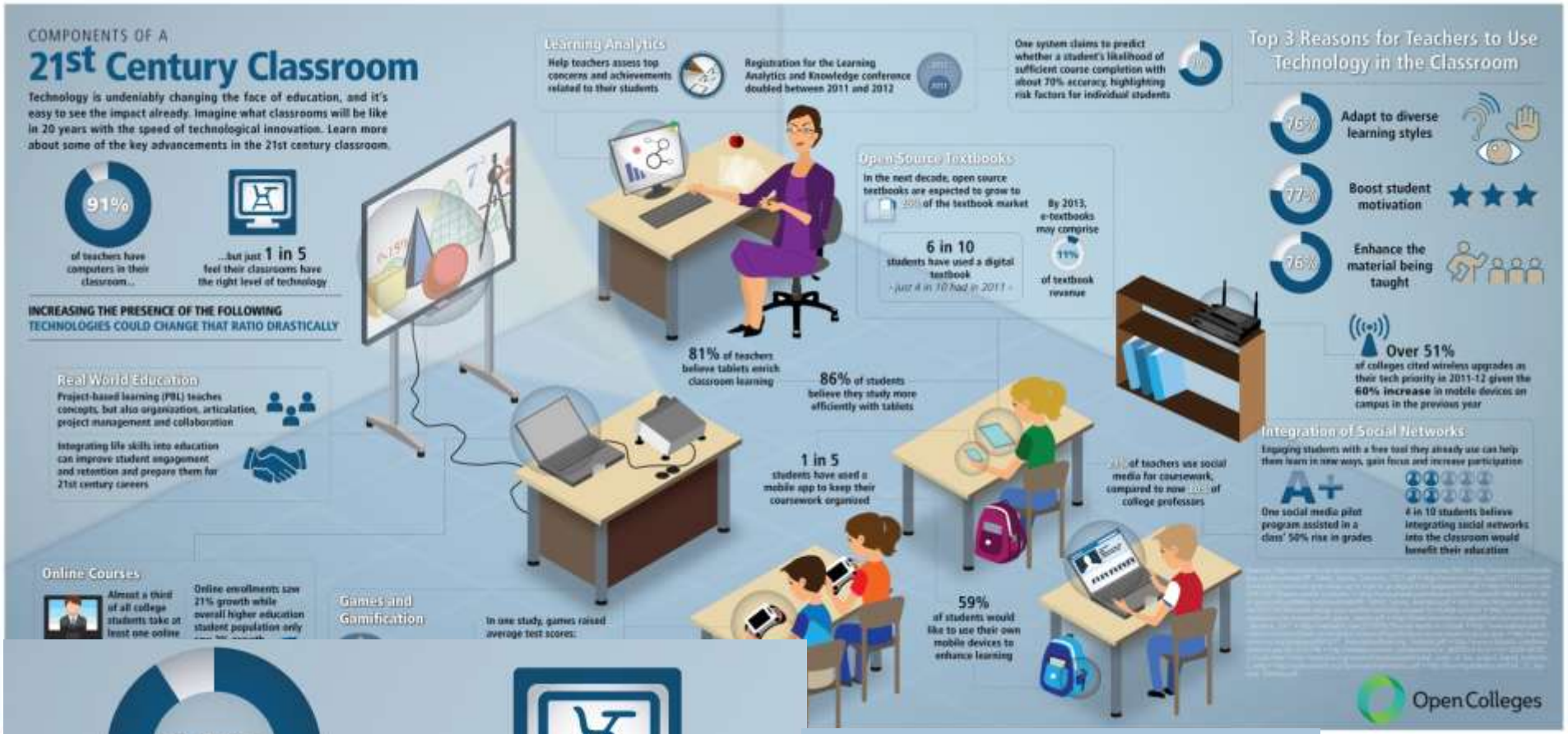
MAPPA
APPA Midwest Region
MiAPPA

Learning Analytics

Help teachers assess top concerns and achievements related to their students

Registration for the Learning Analytics and Knowledge conference doubled between 2011 and 2012

2012
2011



91%

of teachers have computers in their classroom...

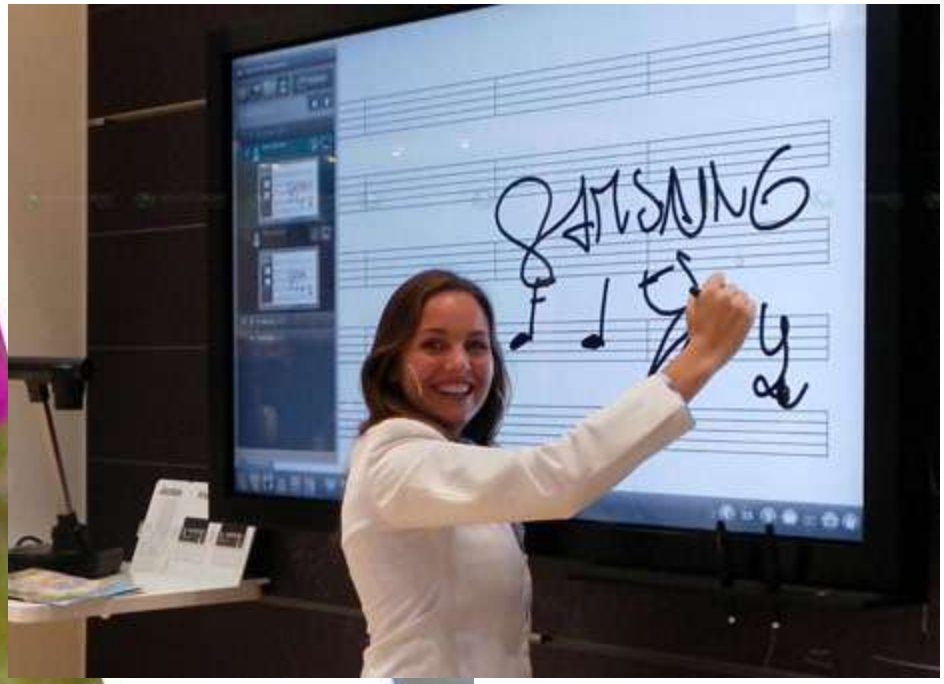
...but just 1 in 5 feel their classrooms have the right level of technology

86% of students believe they study more efficiently with tablets


EPSON

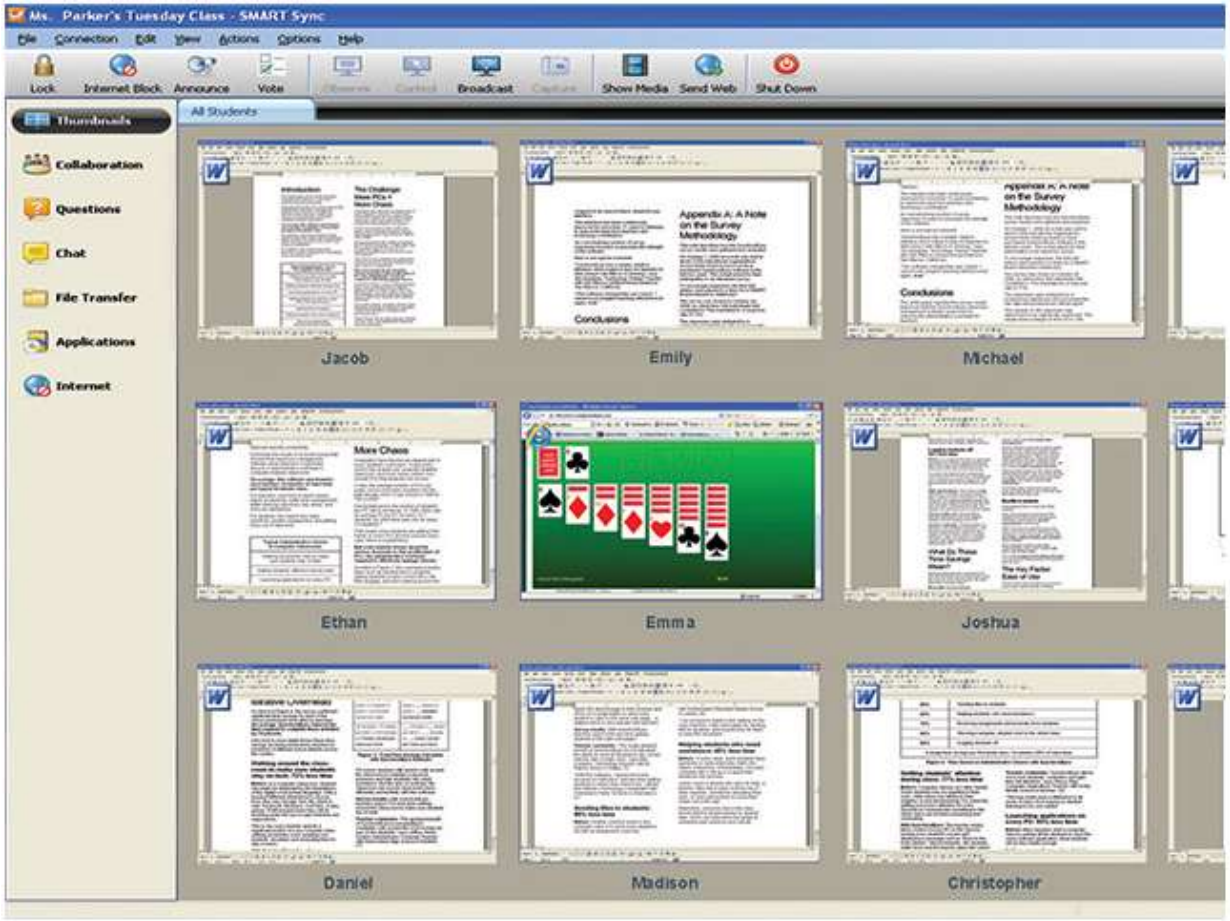

EPSON


BRIDGE THE GAP


SAMSUNG


FLOWER
stigma
Ovary

Software


Ms. Parker's Tuesday Class - SMART Sync
File Connection Edit View Actions Options Help
Lock
Internet Block
Announce
Vote
Broadcast
Show Media
Send Web
Shut Down
Thumbnails
All Students
Collaboration
Questions
Chat
File Transfer
Applications
Internet
Jacob
Emily
Michael
Ethan
Emma
Joshua
Daniel
Madison
Christopher

Hardware

SECURING ENVIRONMENTS

"PROTECTING FACILITIES AND STUDENTS IN THE 21ST CENTURY"

Passive vs. Aggressive/Active Approaches

"OLD" TACTICAL RESPONSE POSTURE

- Cordon and control perimeter
- Wait for SWAT, make communications contact, negotiate, deescalate and respond

"NEW" TACTICAL RESPONSE POSTURE

- Assume active intent to do harm
- Immediate entry and active engagement of suspect
- Neutralize suspect(s) through necessary force as quickly as possible
- Impede ability of suspect to freely move and find victims to target
- Lockdown and shelter in secure places

Cause and Effect of Poor Communications during School incident

CAUSE

- Responders cannot communicate with school personnel, different agencies and hospitals except through dispatch relay of 911 calls
- First Responders are walking into a facility “blind” not knowing where suspects are and are challenged by unfamiliar layouts

EFFECT

- Slowed
  - Response Time
  - Entry
  - Movement
  - Evacuation
  - Medical Care
- Delays in establishing and controlling safe areas and evacuation routes
- Misidentification of suspects
- Higher Risk to Responders of Ambush

Identifying Current Issues…

FOR ANY SCHOOL IN A TIME OF CRISIS, THE FOLLOWING EMERGENCY CAPABILITIES SHOULD BE PRESENT

- School personnel can seamlessly communicate with First Responders
- Responders inside the school need to be able to communicate
- Sharing of Live video from the School surveillance and video systems
- First Responders ability to issue directives over Public Address systems and mass notification systems

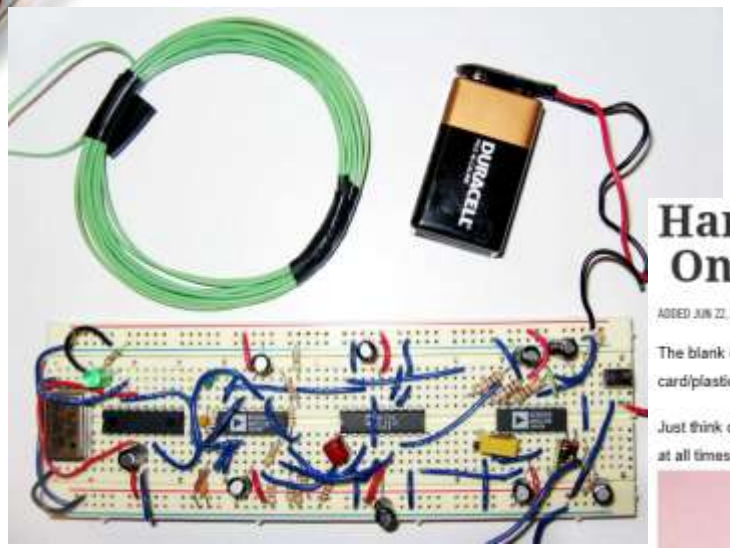
Possible scenario

1. Wireless Silent Panic Alarm activated
2. Communications established between School Staff and Police Dispatch
3. Responders dispatched to correct areas
4. Suspect identified by Police Dispatch using video
5. School Floor plans shared wirelessly
6. School PA and mass notification system used via Police Radios to issue instructions
7. Monitoring of internal video to direct staff and responders
8. Police Response team is streaming live video back from mobile device and is shared with command and EOC
9. Hospital Emergency room alerted and placed on standby and updated live

Moving wireless

A platform to integrate video systems, floor plans, fire-burglar alarms, access control, public address systems, call boxes and other life safety systems on a simple easy to use mobile interface.

Preventing Card Cloning



Handheld I.D Card Cloner! Only $40 Dollars

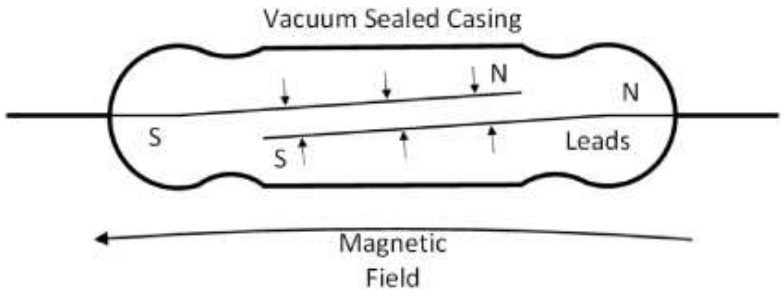
ADDED JUN 22, 2012 UNDER: NEWS

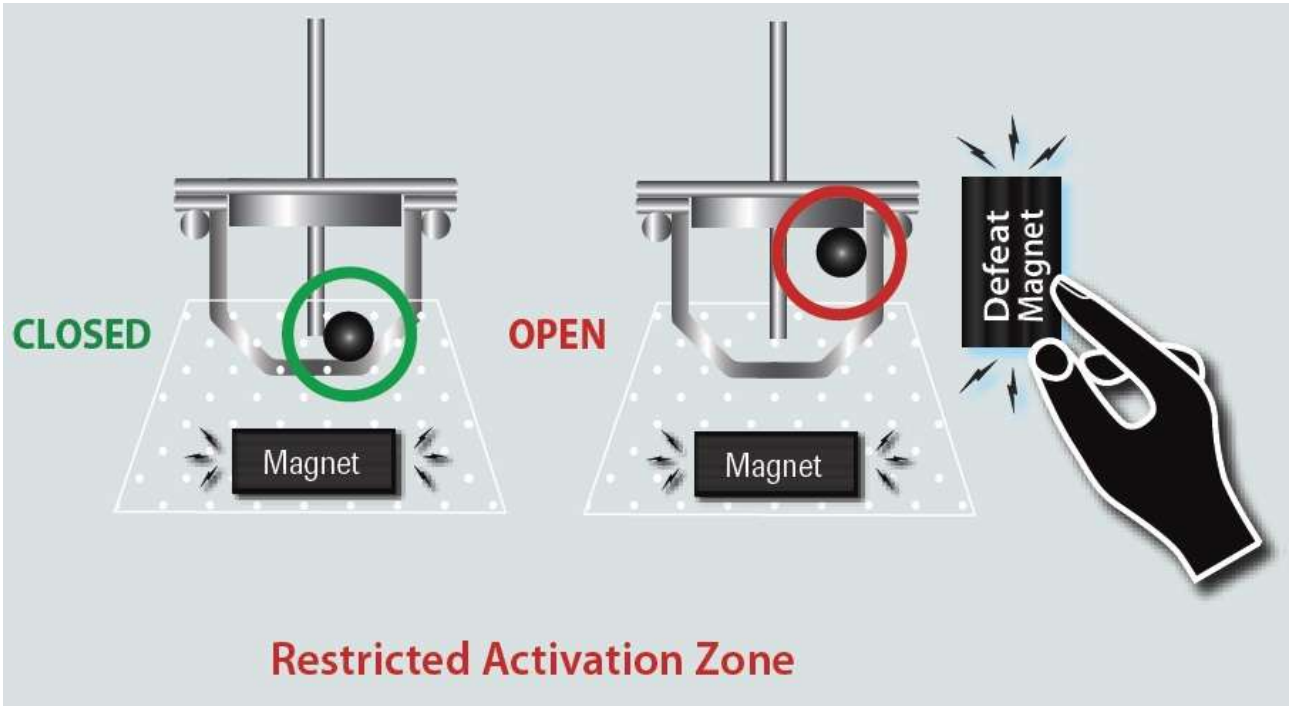
The blank cards and keyfobs are like 25 cents to one dollar at most. It will duplicate any ID card/plastic key etc that you use to access secure areas.

Just think of the "access cards" you can clone with this tiny device that can stay hidden in your pocket at all times. So much for security.....

Preventing Card Cloning

Old Technology door contacts vs New Technology





Preventing Hacking

Last year, higher education faced nearly 2 million data breaches. Traditional defenses involving firewalls and antivirus software are required but increasingly insufficient.

1. **Increase the importance of Cyber security at your facility**
2. **Consolidate Security Solutions**
3. **Know the Enemy**
4. **Collaborate and Share Intel -** Research and Education Networking Information Sharing and Analysis Center, or REN-ISAC.

Summary and Conclusions:

- Working with a team of designers that:
  - Understand issues and have expertise
  - Team with product knowledge, and no affiliation to any manufacturer
  - Start discussing Technology Early on in the project
    - Get IT and campus security people involve in early design phases
- Establish a security and technology team
- Ensure that the team has:
  - Fully researched possible technologies
  - Researched cost savings measures
  - Addressed security and technology Early on in the project and understand/identify levels of costs.

Questions

Thank you…