WELCOME:

Today’s Presentations:
Brain Based Learning
School Safety – Acts of Nature
School Safety – Acts of People
Today’s Agenda:
• a brief introduction
• Brain-Based Learning Video
• Video Discussion
• Topic Presentation
• Hands-On Exercise
• Hands-On Group Presentations
21st-century learning: a brief introduction
Innovative Learning Environments Presentation

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topics

changing education paradigms
what is 21st-century learning?

how do we learn?

what would it look like if...?

our challenge
Why is education reform so needed and important?

“Education cannot sit in this customized world as an island, embracing the Industrial Age, and expect to survive”

The Committee of Ten - 1892

Inevitable – Mass Customized Learning

Recommendations:

- 8 years of elementary
- 4 years of high school
- All students included
- Core classes (English, Math, History/Civics)
changing education paradigms

Sir Kenneth Robinson
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Brain-storming Session

DISAGREE

SHOCKED

AGREE

ON BOARD

BLOWN AWAY

UNDERSTAND
20th century model
- factory model of education
- left-brained thinking
  - logical
  - analytical
  - detail oriented
- gaining existing knowledge
- top down delivery of information
  - teacher ............... sells knowledge
  - student ............ consumes knowledge
21st century model

- personalized learning to build learning ability
- both left + right brained thinking
  - logical
  - analytical
  - detail oriented
- application of knowledge
- building collaborative skills to **create** knowledge

- aesthetic
- synthesizing
- big-picture
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evolution of learning

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Girls mature 1-2 years faster than boys.

**Prefrontal cortex is not fully developed**

- CEO of the Brain
- Cognitive analysis
- Abstract thought
- Focuses attention
- Foresees possible outcomes
- Considers the future
- Forms strategies
- Balances short and long term
- Impulse control
- Delays gratification
- Modulates intense emotion

-Dept. of Health + Human Services
David Thornburg:
  • Senior Fellow of the Congressional Institute for the Future
  • U.S. + Brazilian consultant on technology in Education
  • One of only 20 “Pioneers of Educational Technology”

He initially proposed three “Primordial Learning Metaphors”
  • campfire space
  • watering hole
  • cave space
  • life (Mountain Top)
how do we learn?
### learning modalities

- Independent Study
- Peer Tutoring
- Small Group Collaboration (2-6)
- One-on-One Teacher + Student
- Lecture Format
- Project Based
- Technology Based
- Distance Learning
- Research via the Internet
- Focused Learning
- Student Presentations
- Performance + Music based
- Seminar Style Instruction
- Naturalist Learning
- Social + Emotional Learning
- Art-based Learning
- Storytelling (floor seating)
- Hands on Learning

The spaces we design must allow for

MASS CUSTOMIZED LEARNING
Seating – Can influence student stress levels. Younger students tended to ask more questions when seated in a semi-circle than in rows.

Lighting – Research has shown that the rooms with the most sunlight had students that progressed 20% faster on math tests and 26% faster on reading tests.

Noise – Studies show that children in noisier areas had higher blood pressure and heart rates plus elevated stress levels – all things not conducive to learning.
The first “big” idea of a learning community is a shift from a focus on teaching and coverage of content to an intense focus on learning.”

– dufour, dufour + eaker

“What would it look like if we really meant it?”

– amy yurko, brainspaces
office and entry

All Visitors Please Report to Main Office
what would it look like…

lecture space
what would it look like...

classroom - learning lab

group share
Instant transition between groups to facilitate the flow of discussion
what would it look like…
classroom- learning lab
what would it look like...

classroom- learning lab

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what would it look like...

classroom - learning lab
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what would it look like...

collaborative space
what would it look like...
corridors
commons

what would it look like...
media center
what would it look like...

outdoor learning spaces
furniture

what would it look like...

*sketches by others
what would it look like...
furniture
Curriculum: STEM + STEAM

Science
Technology
Engineering
Art
Mathematics

what would it look like...
**Case Study**

**Brain Based Learning Environments**

Experience: **Epic Learning Center** (Liberty)

- Grades Served: Grades PreK-5
- Enrollment: 300 Students
- Building Area: 27,000 SF (90 SF/Student)
- Budget: $1,300,000

**Better Space Utilization for Learning**

**Share Space for Learning**

**Transforming Space**
Case Study

Brain Based Learning Environments
Experience: East Middle School (Joplin)

- Grades Served: Grades 6-8
- Enrollment: 750 Students
- Building Area: 157,000 SF
- Budget: $30,000,000 (197 $/SF)
  Includes FEMA Shelters

Option 6.1 – “Mentoring on Display”

Community Space  Shared Space  Secure Zoning
Case Study

Brain Based Learning Environments

Experience: Soaring Heights ES (Joplin)

Grades Served: Grades K-5
Enrollment: 450 Students
Building Area: 65,290 SF
Budget: $13,714,000
Includes FEMA
Case Study

Brain Based Learning Environments

Experience: Central Middle School (KCMO)

Grades Served: Grades 6-8
Enrollment: 600 Students
Building Area: 140,000 SF
Budget: $12,261,000
Brain Based Learning Environments

Experience: East Middle School (Raymore Peculiar)

- Grades Served: Grades 7-8
- Enrollment: 900 Students
- Building Area: 135,000 SF (90 SF/Student)
- Budget: $33,000,000

First LEED Middle School in Missouri
First Design / Build Middle School in Missouri
First Formal "Post Occupancy Evaluation
First Phase Master Plan for Campus Grades 7-12
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- Learning rates vary
- Motivation spikes learner interest
- Learning styles differ
- Success breeds success
- Real world context/learning
- Learning is social
- Technology as teacher

“The Baby” (What stays)

- Grade levels
- Students to assigned to a classroom
- Class periods and bell schedules
- Learning happens in schools
- Nine month school year
- ABC Grading + report cards
- Textbooks

“Inevitable - Mass Customized Learning

“In Bath Water”
Today's kindergarteners will be retiring in the year 2073. 65% of the jobs that will be available to them HAVE NOT EVEN BEEN INVENTED YET!! The possibilities are limitless.....how can we prepare our children?
surprise!!

GROUP ASSIGNMENT