

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**

**brain
based**
~~21st century learning:~~
**a brief
introduction**



changing education paradigms

what is 21 century learning?



how do we learn?



what would it look like if...?



Recommendations:

- 8 years of elementary
- 4 years of high school
- all students included
- core classes (english, math, history/
civics)



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

Inevitable – Mass Customized Learning

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changing education paradigms



Sir Kenneth Robinson

Innovative Learning Environments Presentation

DISAGREE

ON BOARD

SHOCKED

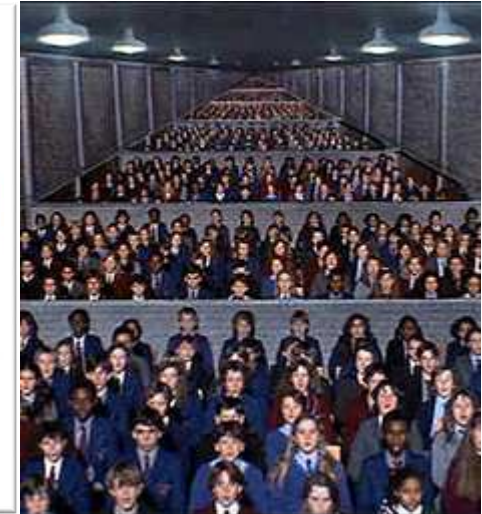
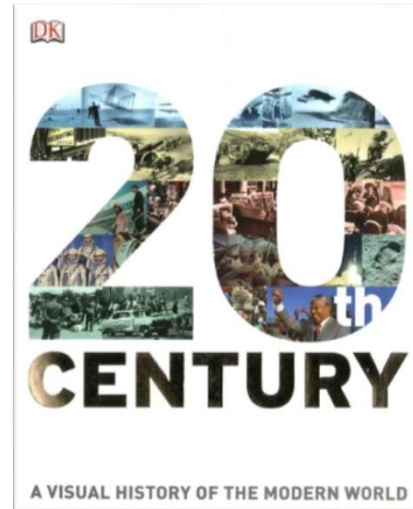
AGREE

BLOWN AWAY

UNDERSTAND

20th century model

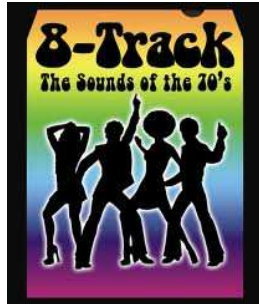
- factory model of education
- left-brained thinking
 - logical
 - analytical
 - detail oriented
- gaining existing knowledge
- top down delivery of information
 - teacher.....sells knowledge
 - studentconsumes knowledge



21st century model

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

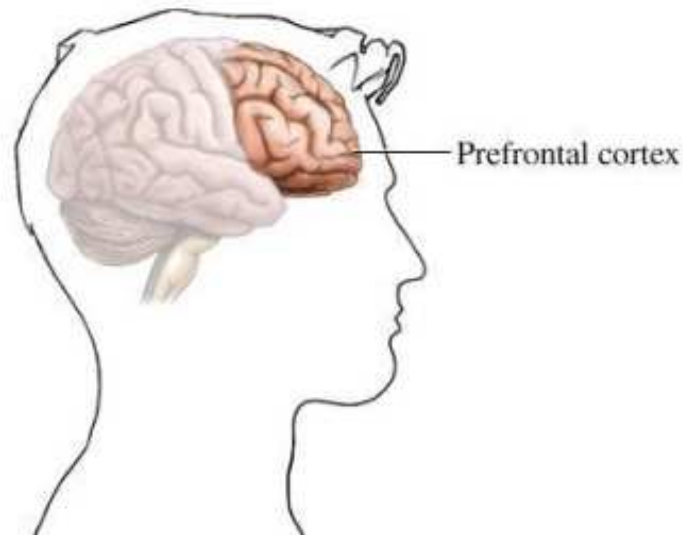






Girls mature 1-2 years faster than boys.

truly unique aspect



- 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

Prefrontal cortex is not fully developed

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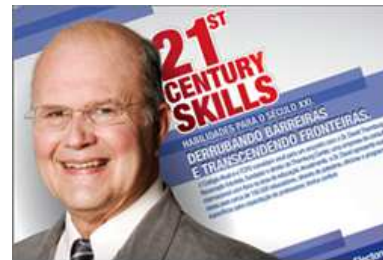
David Thornburg:

- 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)**

 **iste** International Society for
Technology in Education



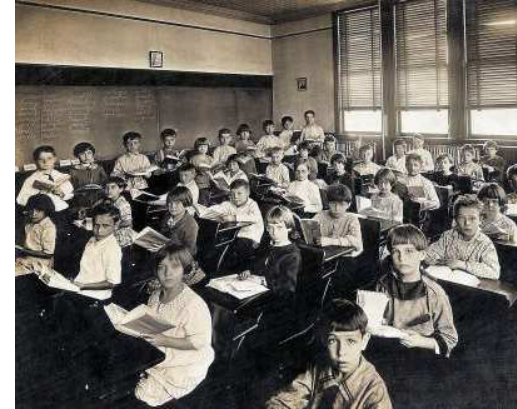
THORNBURG
C E N T E R



Pragmatic Visionaries

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how do we learn?



campfire

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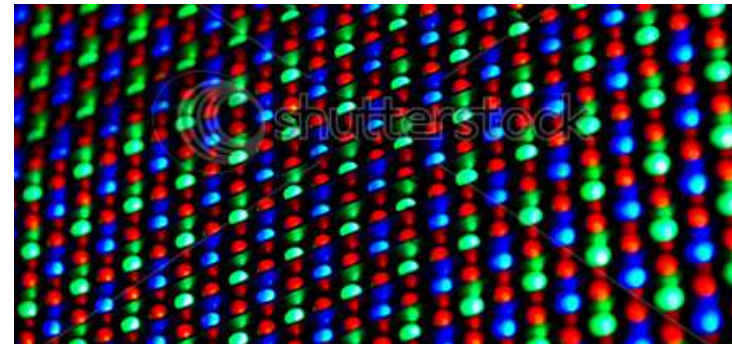


watering hole

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cave space



mountain top

- 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.



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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

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office and entry



lecture space



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what would it look like...

~~classroom~~ learning lab



group share
Instant transition
between groups
maintains the flow
of discussion



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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...

classroom- learning lab



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what would it look like...

collaborative space



corridors



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what would it look like...

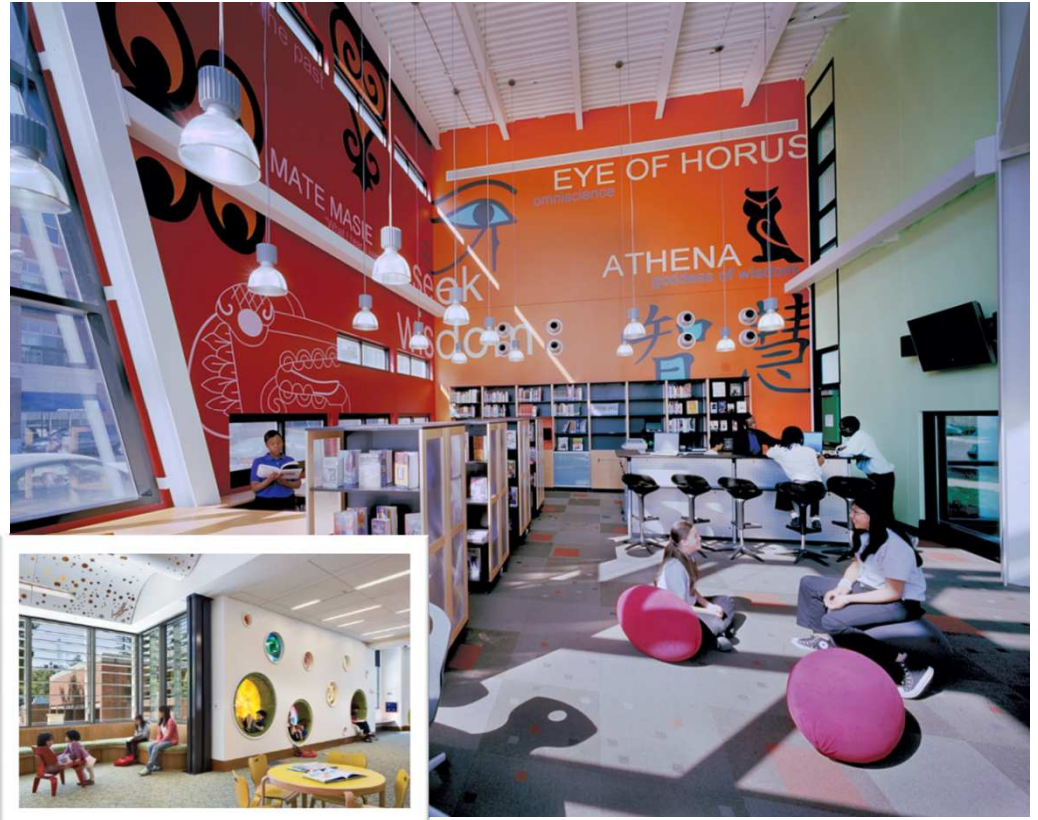
commons



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what would it look like...

media center



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what would it look like...

outdoor learning spaces



furniture



*sketches by others



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what would it look like...

furniture



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what would it look like...

Curriculum: STEM + STEAM

Science
Technology
Engineering
Art
Mathematics



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<http://www.cnn.com//2014/08/01/opinion/gingrich-schools-blended-teaching-technology/index.html>



Better Space Utilization for Learning

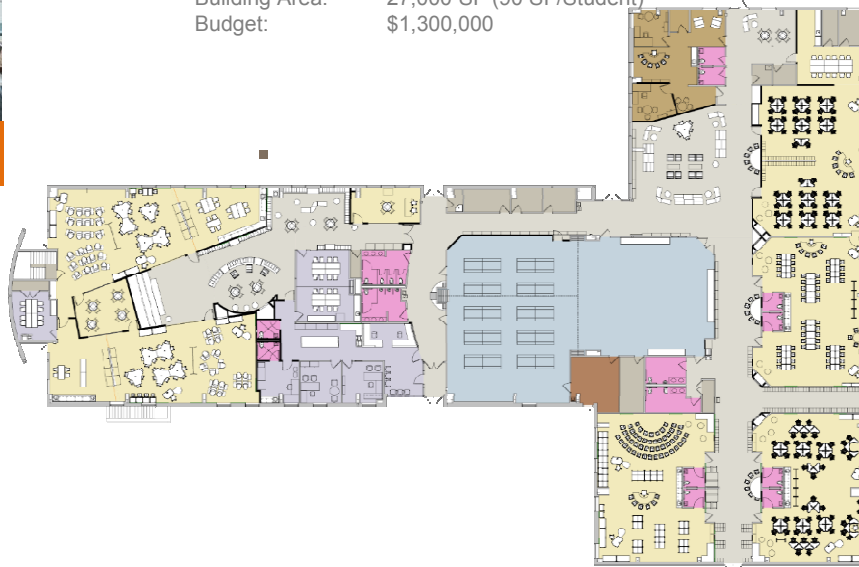


Share Space for Learning

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



Transforming Space



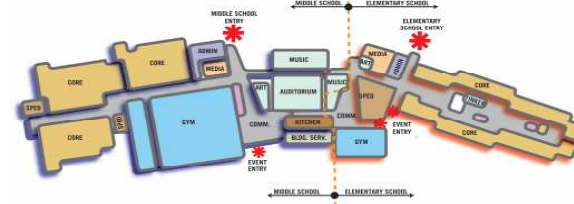
Brain Based Learning Environments

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



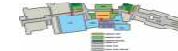
Option 6.1 – “Mentoring on Display”



Community Space

Shared Space

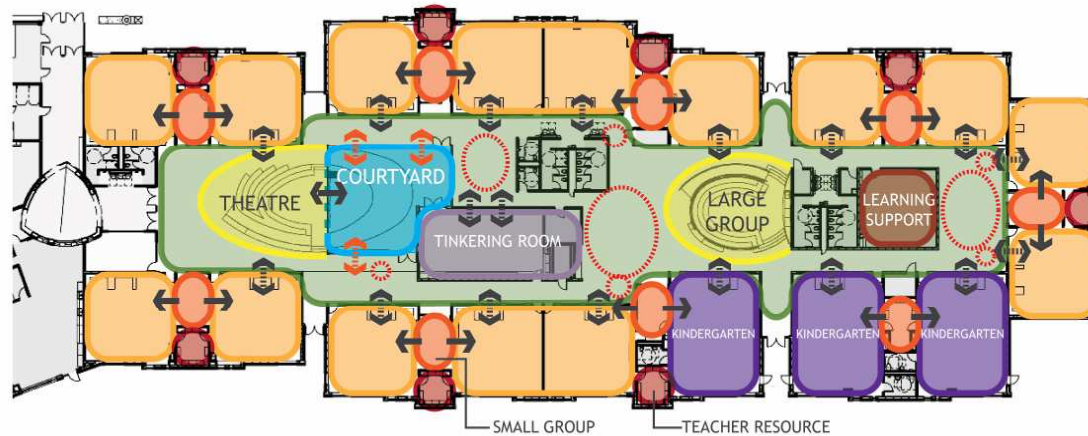
Secure Zoning



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



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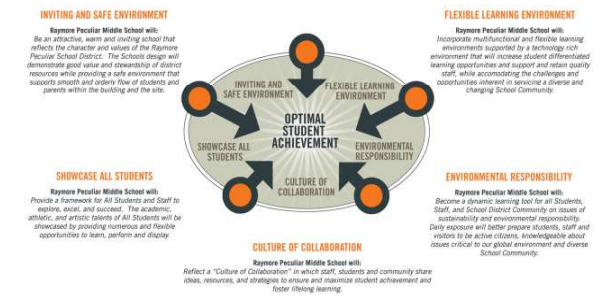
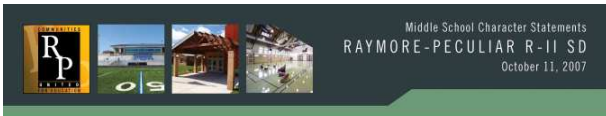
Case Study

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





“The Baby” (What stays)

- Learning rates vary
- Motivation spikes learner interest
- Learning styles differ
- Success breeds success
- Real world context/learning
- Learning is social
- Technology as teacher

“Bath Water”

- 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

Innovative Learning Environments Presentation

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

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GROUP PRESENTATIONS

