Memes, myths, & motivation
Are we focused on what really matters in school design?

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Memes, myths, & motivation
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memes

a humorous image, video, piece of text, etc. that is copied (often with slight variations) and spread rapidly by Internet users.

an element of a culture or system of behavior that may be considered to be passed from one individual to another by nongenetic means, especially imitation.
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**myths**
a traditional story, especially one concerning the early history of a people or explaining some natural or social phenomenon, and typically involving supernatural beings or events
a widely held but false idea
motivation
the general desire or willingness of someone to do something

the reason or reasons one has for acting or behaving in a particular way

Whole Brain Teaching

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Design spaces for the bottom of the Learning Pyramid

LEARNING PYRAMID

Source: National Training Laboratories, Bethel, Maine
LEARNING PYRAMID
• Myth or Hoax?
• Seems intuitively plausible
• There is no published study documenting these retention rates
• "The research reviewed here demonstrates that use of each of the methods identified by the pyramid resulted in retention, with none being consistently superior to the others and all being effective in certain contexts."

Dr. James P. Lalley and R. Miller (2007) "The learning pyramid: Does it point teachers in the right direction?" Education and Information Technologies v128, n1, 64-79

FLEXIBILITY FOR MANY ACTIVITIES AND APPROACHES

FUNDAMENTAL EXPERIENCES FOR MAKERSpaces

Think
Make
Share
Design lab - THINK

Group One Findings From Workshop One

PROTOTYPING STUDIO
- Machines for a variety of project types
- Dust collector
- Project storage under tables
- Variation of available tools
- Easy access to tools for display
- Tall Tables
- Heavy Equipment for Building
- No Carpet

PROJECT DISPLAY & DEMONSTRATION
- 3D Printers
- Robotics
- Make student work visible
- Windows and digital display
Design spaces for Multiple Intelligences & Learning Styles

Proposed by Howard Gardner in his 1983 book Frames of Mind: The Theory of Multiple Intelligences

Despite the lack of evidence, the ideas of multiple non-g intelligences are attractive to many due to the suggestion that everyone can be smart in some way.

Cognitive neuroscience research does not support the theory of multiple intelligences.

DESIGN FOR EDUCATIONAL GOALS AND CONTENT

DO NOT DESIGN FOR GROUP LEARNING STYLES

Design for Whole Brain Teaching!
Next Generation Science Standards

Crosscutting Concepts
1. Patterns
2. Cause and Effect
3. Scale, Proportion & Quantity
4. Systems and System Models
5. Energy and Matter
6. Structure and Function
7. Stability and Change

Floor Plan (Before)

Floor Plan (After)
1. Whole Brain Thinking
- Lots of activity improves learning
- Novelty improves engagement

2. Learning Styles
- Learn best in preferred learning styles
- Design for content – not individual intelligences

3. Learning Pyramid
- De-emphasize reading in favor of project-based learning
- Support all steps on the pyramid

4. Right Brain/Left Brain
- Some are logical, some are creative
- Everyone has logical and creative aptitudes

5. Academics Not Athletics
- Athletics distract from academic achievement
- Athletics can have long-term benefits

6. Only 10% of Brain Used
- Most brain capacity is untapped
- Young students brains = 50% of oxygen use

7. Daylighting Boosts Test Scores by 20%
- 7% to 19% correlation improvement varies, can be harmful

8. Color Has a Long-Term Impact
- Color can manipulate complex behaviors
- Short-term, avoid chronic stress

9. Mozart Effect
- Classical music improves IQ
- Allow choice in what you hear

10. Five Senses
- Only five senses
- Design for 20+ senses

Motivation
1. Eliminate unnecessary stress
2. Provide a variety of choices
3. Design for movement
4. Design for discovery
5. Design for social interactions

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Thank you!
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