MIND SHIFT!

The Intersection of Science, Educators, Technology, and Design
WELCOME

WHO’S IN THE ROOM?
AGENDA

Set the table with some Ancient History
Teachers perspective
Evidence
AGENDA

Set the table with Ancient History
A Teachers perspective
Evidence

NORMS

Cell Phone Use
Learning Preferences?
Cockroach Words
21 Century
Whole Child
Classroom
Flexibility
1880's INDUSTRIAL
1890’S MARKETING

THE ORIGINAL MAKERS OF SNAKE OIL

Come One Come All - @ Drug Lawyers LLC, we'll provide legal services that are sure to line our own pockets...

FLAVOURED WITH GENUINE HOME-GROWN BULLSH*T

BAYER
PHARMACEUTICAL PRODUCTS.

We are now sending to Physicians throughout the United States literature and samples of

ASPIRIN

The substitute for the Salicylates, agreeable to taste, free from unpleasant after-effects.

HEROIN

The Relative for Coughs.
HEROIN HYDROCHLORIDE
Its water-soluble salt.
You will have call for them. Order a supply from your jobber.

Write for literature to
FARBENFABRIKEN OF ELBERFELD CO.
40 Stone Street, New York, N.Y. USA.
one size fits all...?
aptitude...?
1940's ENGINEERING
CHEVROLET
1958

Culture + identity
Emotion

1955 MARKETING
Technology is changing...

Information is growing...

Culture is shifting...

Workplaces are changing rapidly [... is Education?]
TECH SAVVY

- 48% have built a website
- 16% have developed an app
- 43% have telecommuted to work
DIGITAL LOVERS / HATERS

- 26% have dated someone they met online
- 16% have dumped someone via social media, e-mail, or text
- 11% have sexted
Knoll, 2013
1990's EDUCATION
education as **INDUSTRIAL POWER**?

hasn't OUR Social structure + Economic structure changed?
We converted EVERYTHING ELSE!!!
We converted EVERYTHING ELSE!!!
We converted FVERYTHING ELSE!!!
But we are ... making progress
Neuroscience

- Learning can be enhanced by certain environmental conditions and hampered by others:
  - Inadequate school facilities, **poor acoustics, outside noise, & inadequate classroom lighting** correlate with poorer academic performance.
  - **Chairs** with poor support hamper blood supply to the brain and impede cognition.
  - Temperatures **above 74–77 degrees Fahrenheit** correlate with lower reading comprehension and math scores.
  - A more hospitable climate for learning can help performance by providing for the physical needs of the body.
  - Daylight provides **triggers to Serotonin and dopamine**.
Neuroscience

• **Spatial design** must enable the teacher to get to each child or group easily.

• It is essential that the **child feels well emotionally, is not distracted**, and that the necessary materials and storage space are available.

• **Create multifunctional rooms** that allow different kinds of social forms in the different areas of the room (It does not seem to be purposeful to try to find one arrangement for all circumstances.)

• The more freedom preschool children are given to choose both content and ways of implementing their learning, the more the course design is beneficial for the maturation.

RESEARCH:
Learner-Environment Relationship
Neuroscience

- close **supportive relationships** stimulate positive emotions and learning.

- **early experiences** shape structures in ways that have a lifelong impact on three of our most vital areas of learning: attachment, emotional regulation, and self-esteem.

- **multichannel learning** (visual, semantic, sensory, motor, and emotional neural networks all contain their own memory systems, multichannel learning engaging each of these networks increases the likelihood of both storage and recall), w/this, there is a greater likelihood that learning will generalize outside the classroom.
Why is this significant?
What does this tell us about activity?
How does this inform us about the learning environment?
WHY WE HATE OUR OFFICES
And how to build a workspace we can love
70% work in an open office

190 sf of personal work space 2013, down from 225 sf in 2010

“We don’t think of our Headquarters as Real-estate but as a Communication tool”
- Telnor CEO

Struggles:
Privacy / Transparency

NESTING AND PERSONAL SPACE..
cultural, technological, generational and economic shifts are developing a new process to solve and design.

Integrated approach similar to STEM
PAST MARKET EXPECTATIONS

- sales
- consistent
- autonomous
- thorough
- success
- sure
- definitive leaders
- authority
- facts
- process
- marketing

[TRANSACTION]

NEW MARKET EXPECTATIONS

- responsible
- transparent
- systemic
- nimble
- responsive
- right
- dynamic leaders
- stories
- beliefs
- passion
- relationships

[TRUST]
“Our business model is one of very high risk: we dig a very big hole in the ground, spend three billion dollars to build a factory in it, to produce technology that hasn't been invented yet, to run products we haven’t designed yet, for markets which don’t exist.”

We do that two or three times a year.”

- Paul Otellini, CEO - intel
make

think, pair, share
MINDSHIFT
Challenge By Choice

Echo Hill Outdoor School
Be wary of what we think we know....
“Working towards more sustainable cotton was learning by doing. Mostly it was a close cooperation with the farmers. The farmers had **practical knowledge** about cotton cultivation. We and our partners had the **theoretical skills**. Together we could come up with better ways forward.

– Pramod Singh, **IKEA Cotton Leader**
Mind Shift: The Intersection of...
Science

- Neuroscience
- Psychology
- Educational Research
Technology

- Increasing accessibility
- Increasing efficiency
- Increasing emotionality and multi-sensory
Educators

- Educator as Learner
- Teachers, not just Administrators
- Observing instead of Asking
- Balancing trends, research, misinformation, habits, politics
What pulls at educators in the classroom?
- 21st Century Learning Capacities
  - Common Core
    - Special Education Law
    - Project Based Learning
  - Transdisciplinary Learning
  - Diversity
“...nearly every teaching intervention works, which means we have to be more critical in our selection of methodologies and choose what works for the majority of students, most of the time to get the best results.”

– Tokuhama-Espinosa
“Space matters. We read our physical environment like we read a human face.”

– Doorly and Whithoff, Make Space
Let’s tap the brake..

How is this room layout working?
John Hattie

“Visible Learning”

• 150 Influences that Impact Student Outcome
• 47 Interventions Mentioned by Hattie That Are Interpreted To Be Within the Teacher’s Realm of Influence
Tracey Tokuhama-Espinosa

Best Classroom Practice #41: Design Engaging Classrooms

- “An engaged classroom is like a suspense film, keeping students hooked throughout the entire class period.”
50 Others....

• Plan to incorporate repetition.
• Provide feedback for mastery learning.
• Plan activities that stimulate memory.
• Practice and foster metacognition and mindfulness.
• Cultivate the art of questioning.
• Keep abreast of technology.
#13: Nurture Teacher-Student Relationships.

People (learners) want to be known.
People (learners) want to be valued.

-What does this look like behaviorally?
Pope John Paul II was fluent in 8 languages and proficient in many more, so that he could speak to his audiences in their native tongue.

What did he know about people that made this important to him?
How well do you know your users?
How do we meaningfully involve ALL users before a project, during a project, and after a project... so that the intent of design is fully reflected in the use of the product?
# i wonder ...