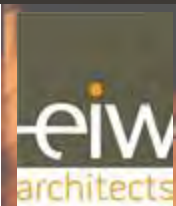


Shannon Needham
Chester Bartels
Peter Lippman

MIND SHIFT!

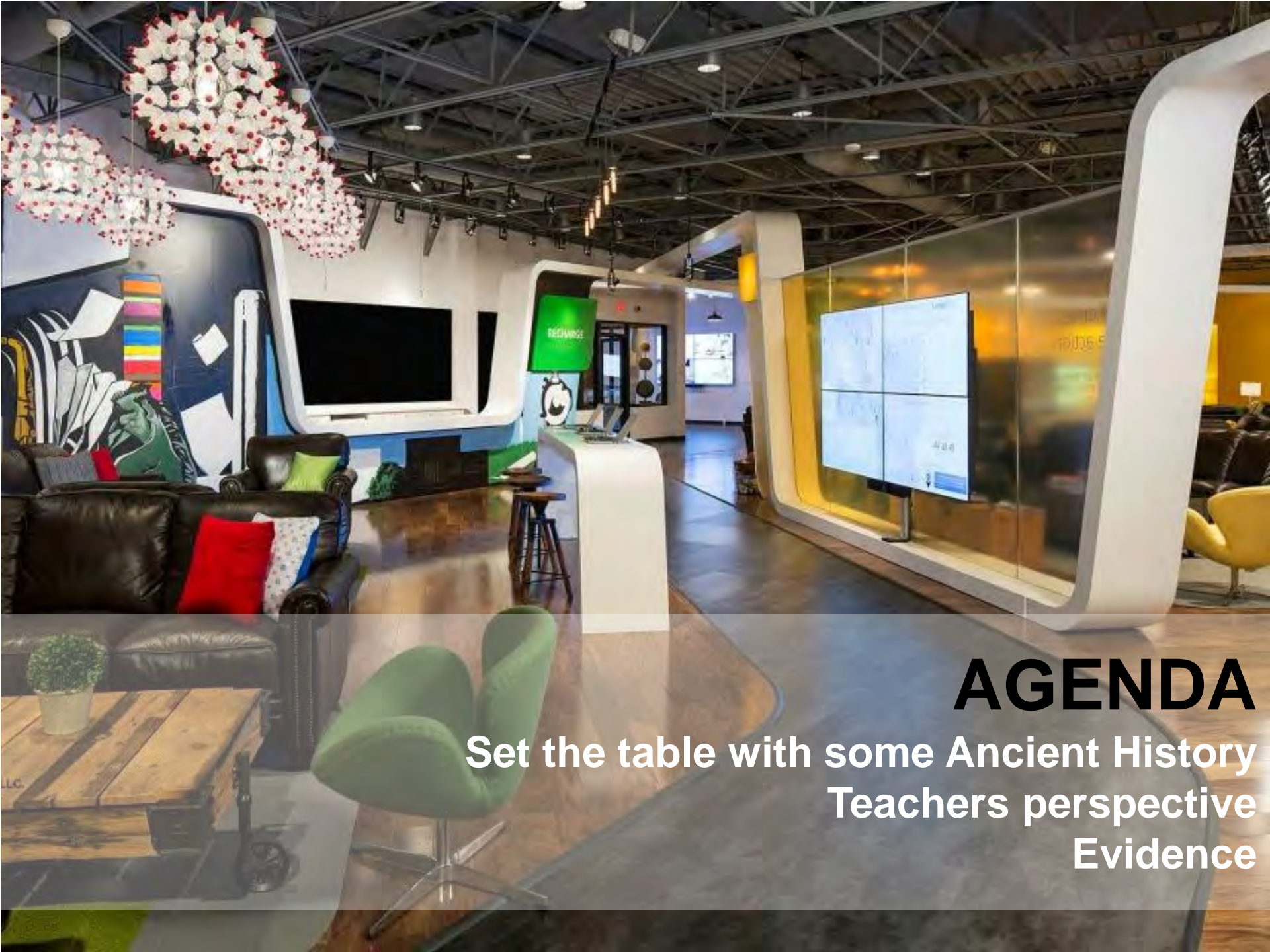
The Intersection of Science, Educators, Technology, and Design





WELCOME

WHO'S IN THE ROOM ?



AGENDA

Set the table with some Ancient History
Teachers perspective
Evidence

The background image shows a modern interior space, possibly a lounge or office, with a yellow overlay. The overlay contains the text 'NORMS' and a list of topics. The background features a black leather sofa, a wooden coffee table, and a large white curved structure. The ceiling has exposed beams and hanging lights.

NORMS

Cell Phone Use

Learning Preferences?

Cockroach Words

**21 Century
Whole Child
Classroom
Flexibility**

AGENDA

**Set the table with Ancient History
A Teachers perspective
Evidence**



INDUSTRIAL

1880's INDUSTRIAL

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...*

FLAVORED WITH GENUINE HOME-GROWN BULLSH*T

FLAVORED WITH GENUINE HOME-GROWN BULLSH*T

sure to line our own pockets...

LLC, we'll provide legal services that are

BAYER

PHARMACEUTICAL PRODUCTS.

We are now sending to Physicians through-
out the United States literature and sam-
ples of

ASPIRIN

The substitute for the Salicylates, agreea-
ble of taste, free from unpleasant after-
effects.

HEROIN

The Sedative 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.
NEW YORK, N.Y.

40 Stone Street, New York.

FARBENFABRIKEN OF ELBERFELD CO.

Write for literature to

1890'S MARKETING



INDUSTRIAL 1890



one size fits all...?

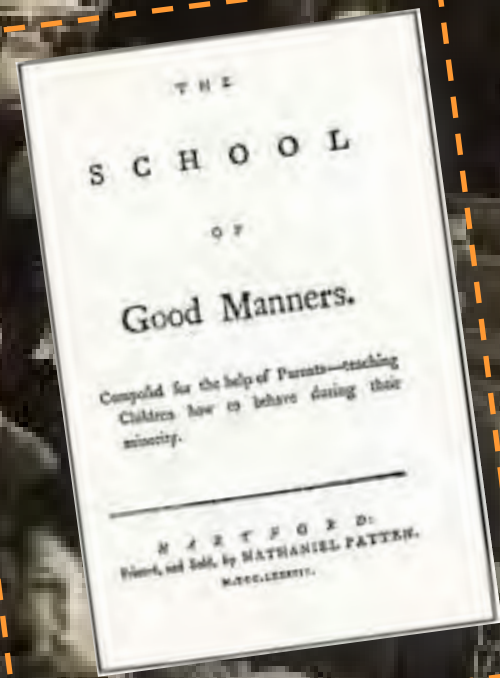
1940's EDUCATION



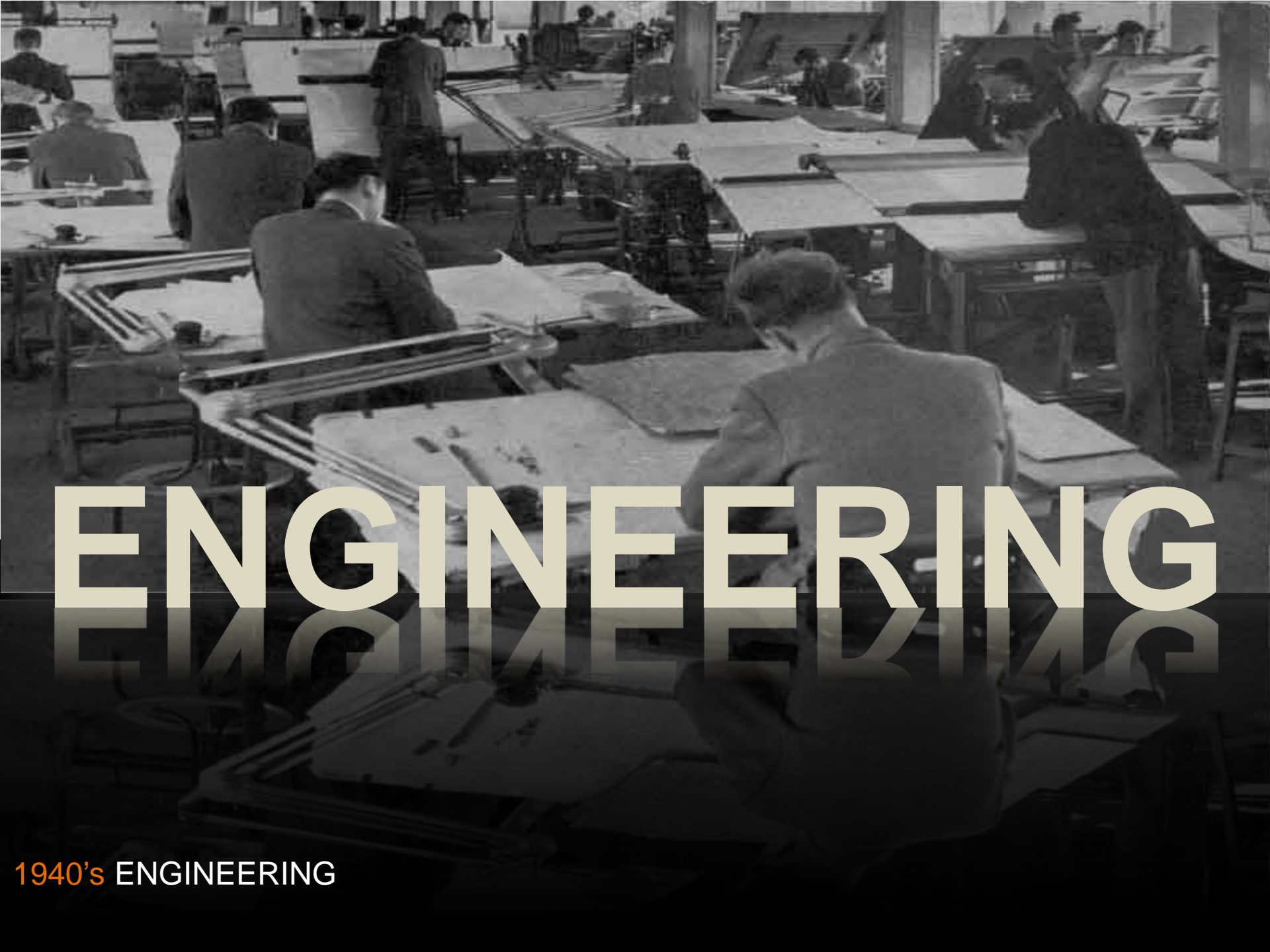
2-A-27/2/46

COMET

aptitude...?



1940's EDUCATION



ENGINEERING

1940's ENGINEERING

CHEVROLET
1958

Culture + identity
Emotion

1955 MARKETING





1970's CLASSROOM



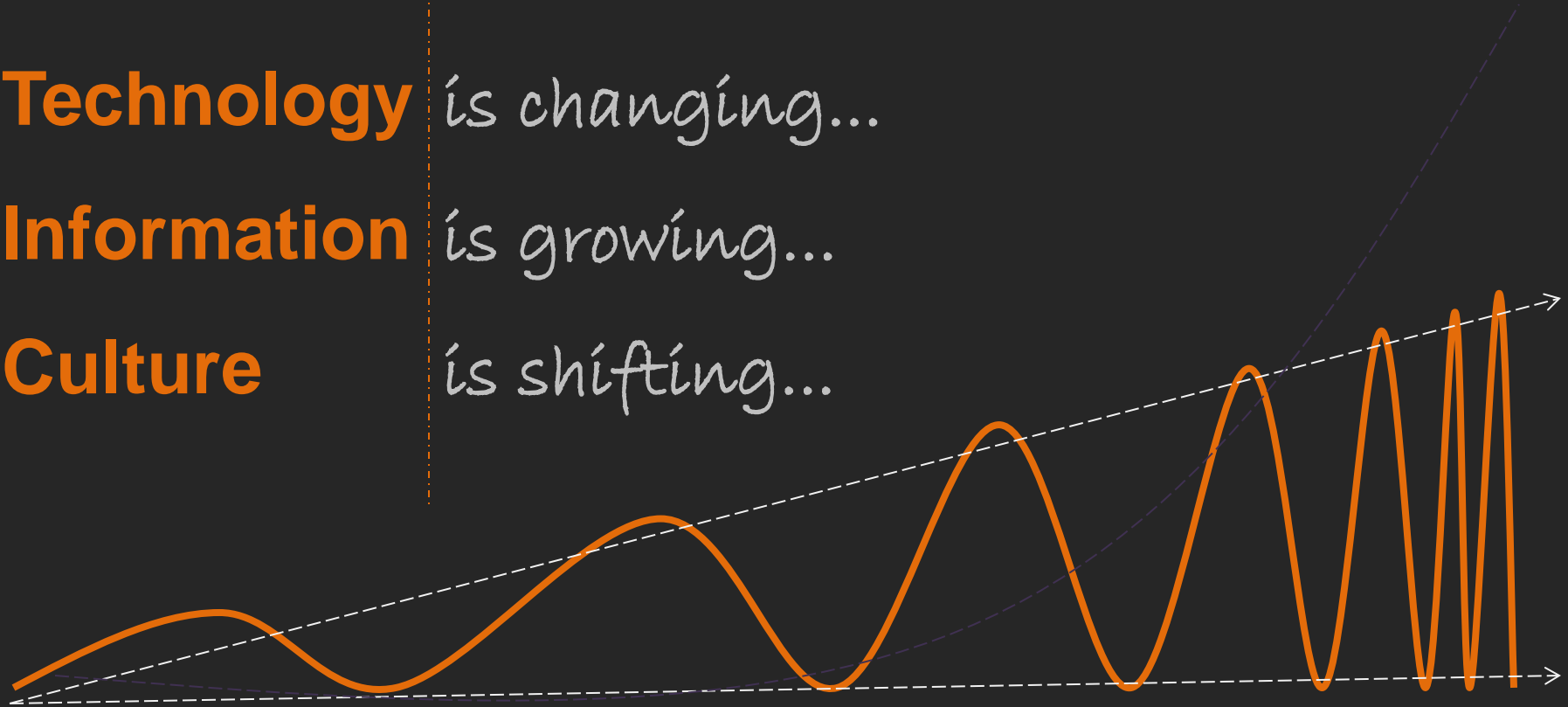
TECH BOOM

1990's Culture

Technology is changing...

Information is growing...

Culture is shifting...



EXPONENTIALLY

Workplaces are changing rapidly [.. is Education?]

TECH SAVVY

48% have built a website

16% have developed an app

43% have telecommuted to work

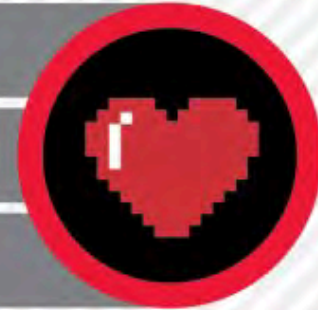


DIGITAL LOVERS / HATERS

26% have dated someone they met online

16% have dumped someone via social media, e-mail, or text

11% have sexted







1990's EDUCATION



education as INDUSTRIAL
POWER?

hasn't OUR Social structure+
Economic structure changed?

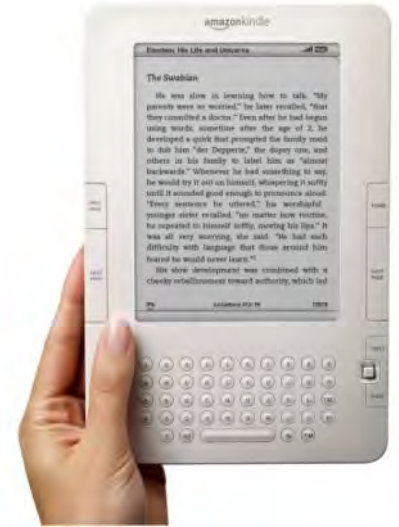
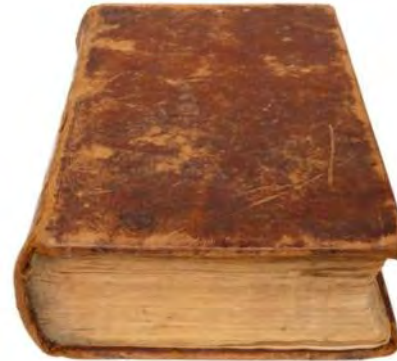
We converted EVERYTHING ELSE!!!

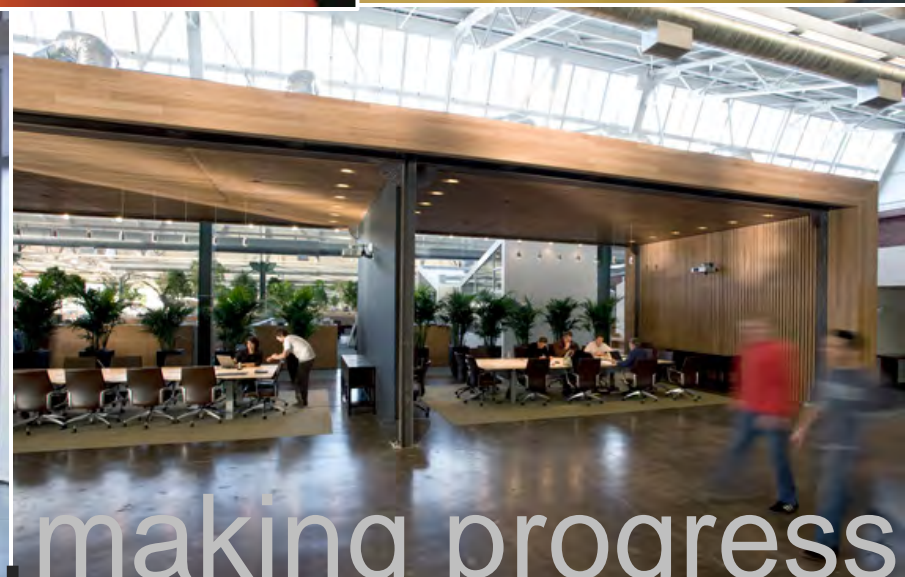
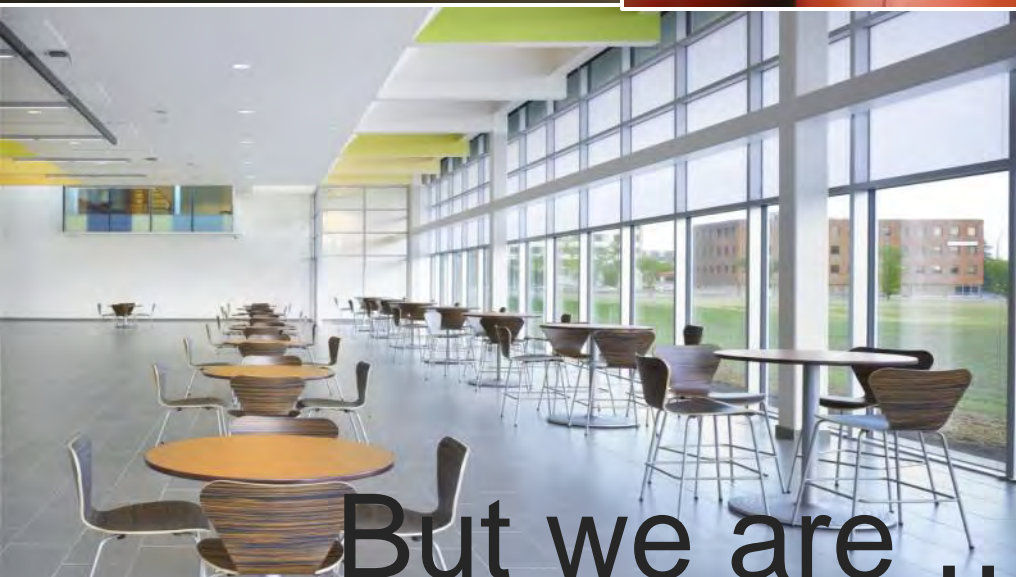


We converted EVERYTHING ELSE!!!



We converted FVFRYTHING ELSE!!!





But we are ...making progress

HUMAN-ENVIRONMENT RELATIONSHIPS

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**.

RESEARCH:

Learner-Environment Relationship

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

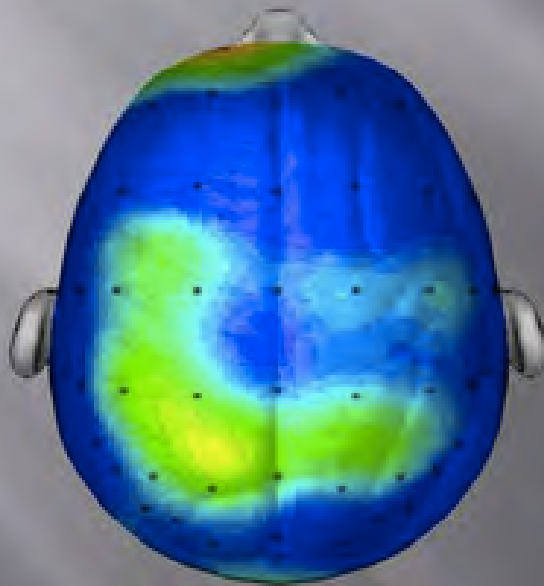
RESEARCH:

Learner-Environment Relationship

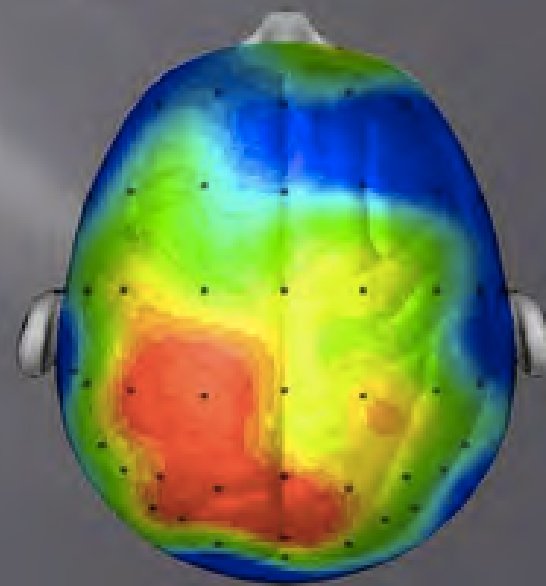
Neuroscience

- 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

BRAIN AFTER SITTING
QUIETLY



BRAIN AFTER 20 MINUTE
WALK

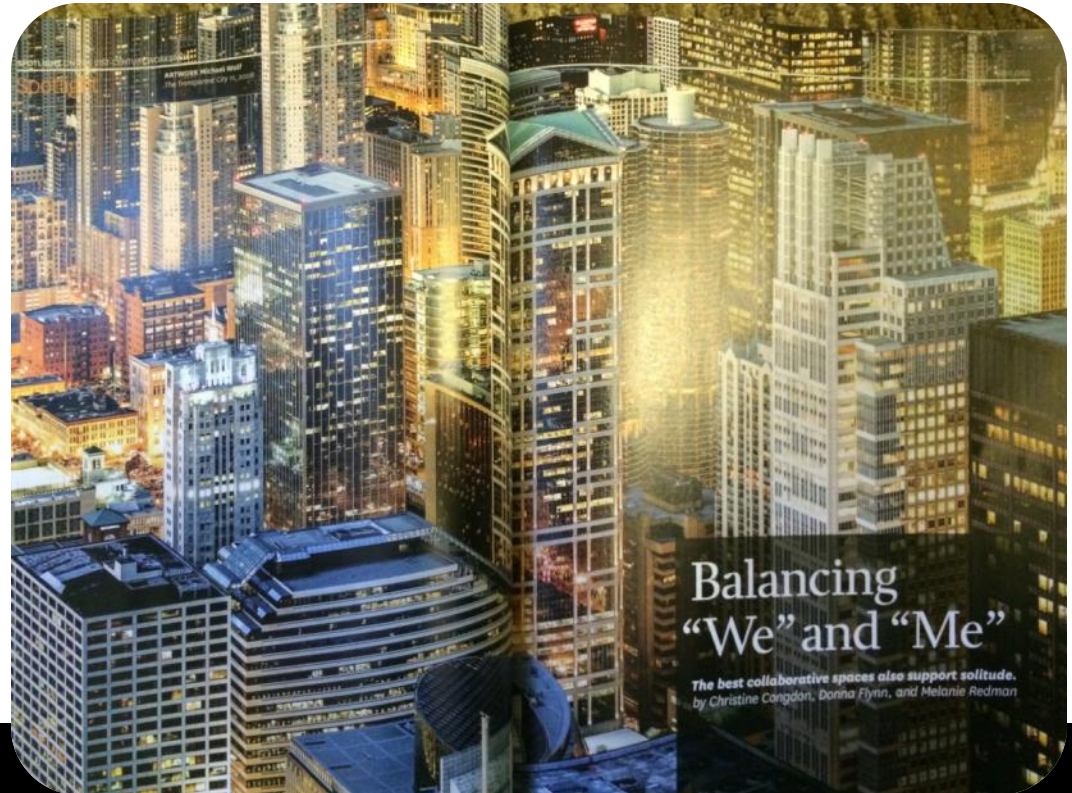


Research/scan compliments of Dr. Chuck Hillman University of Illinois

Why is this significant?

What does this tell us about activity?

How does this inform us about the learning environment?



workplace

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”

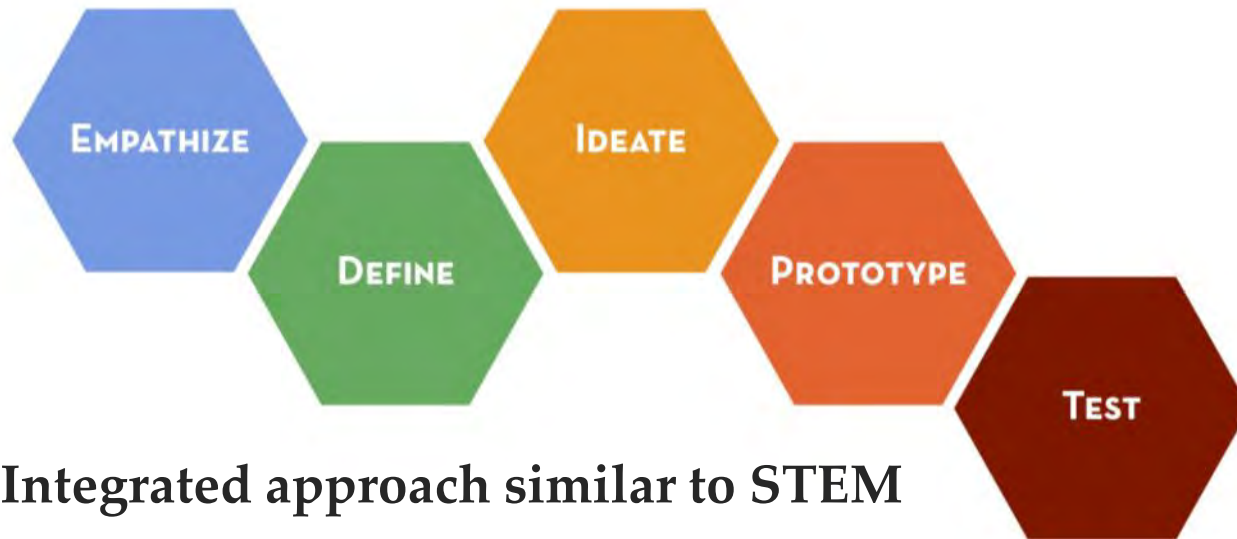
- Telnor CEO

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

NEW MARKET EXPECTATIONS

sales	responsible
consistent	transparent
autonomous	systemic
thorough	nimble
success	responsive
sure	right
definitive leaders	dynamic leaders
authority	stories
facts	beliefs
process	passion
marketing	relationships

[TRANSACTION] [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

TIME TO...



make

think, pair, share



MINDSHIFT

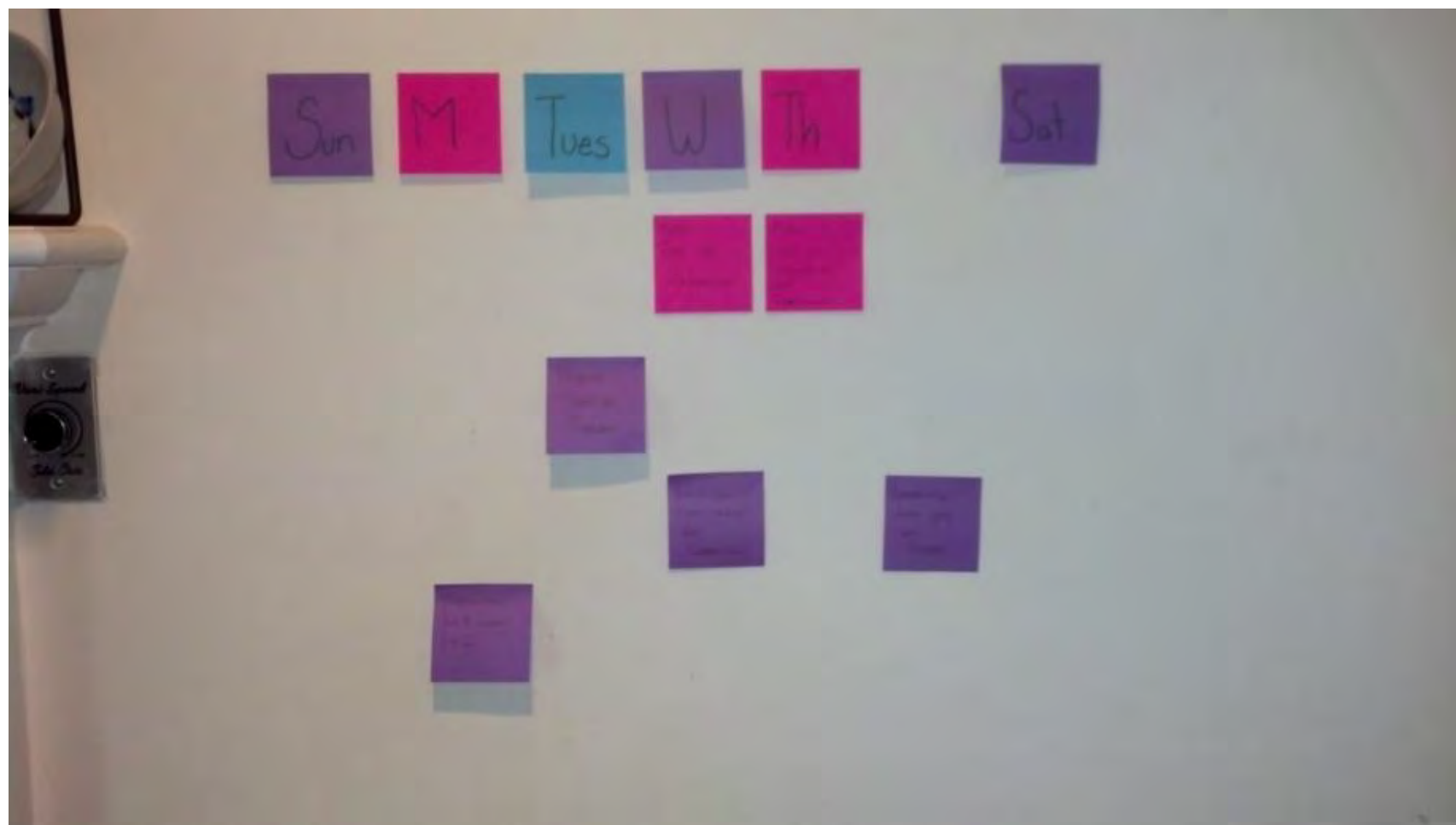
Challenge By Choice

Echo Hill Outdoor School



Be wary of what we think we know....





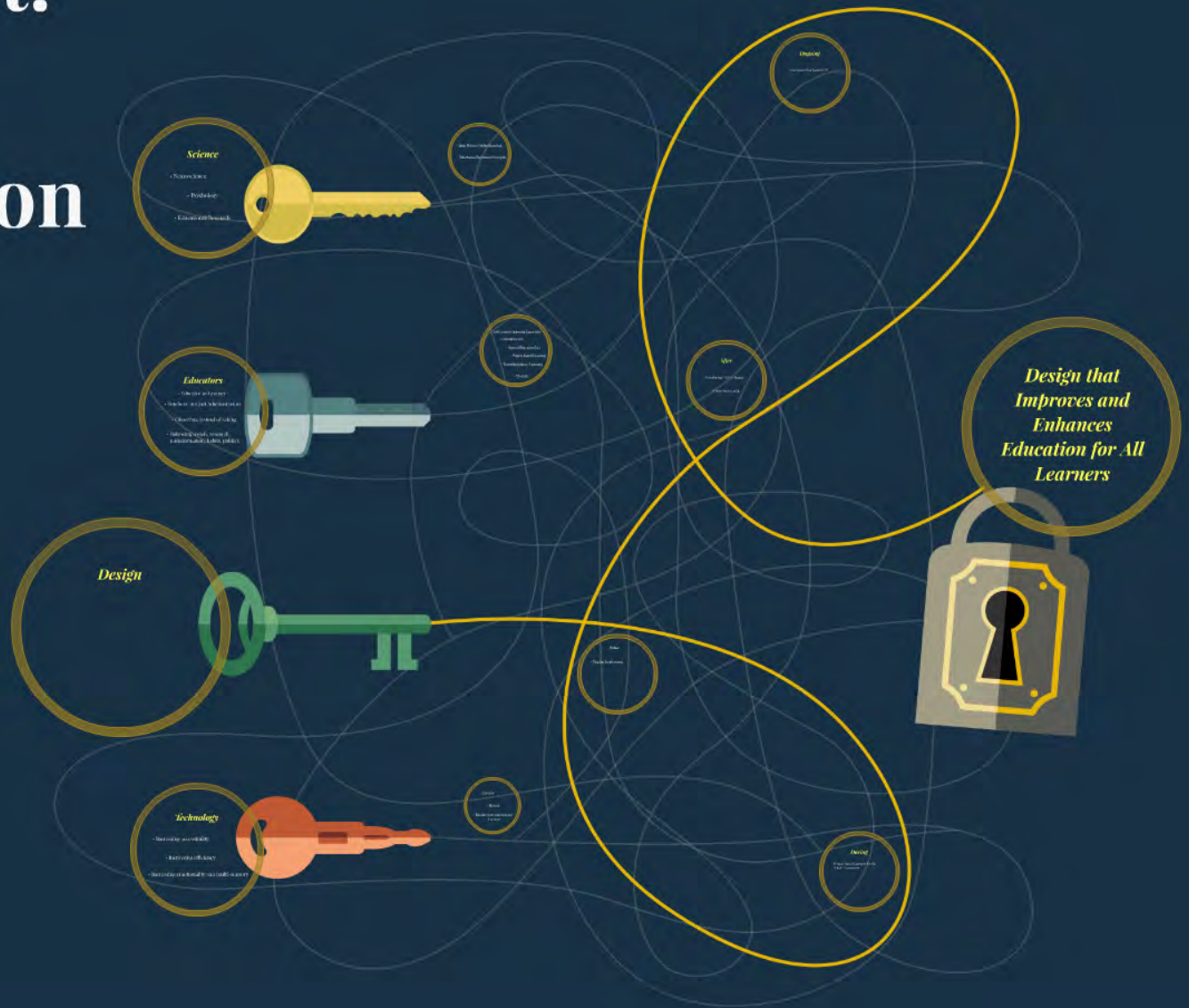
Looking Beyond Our Disciplines

“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

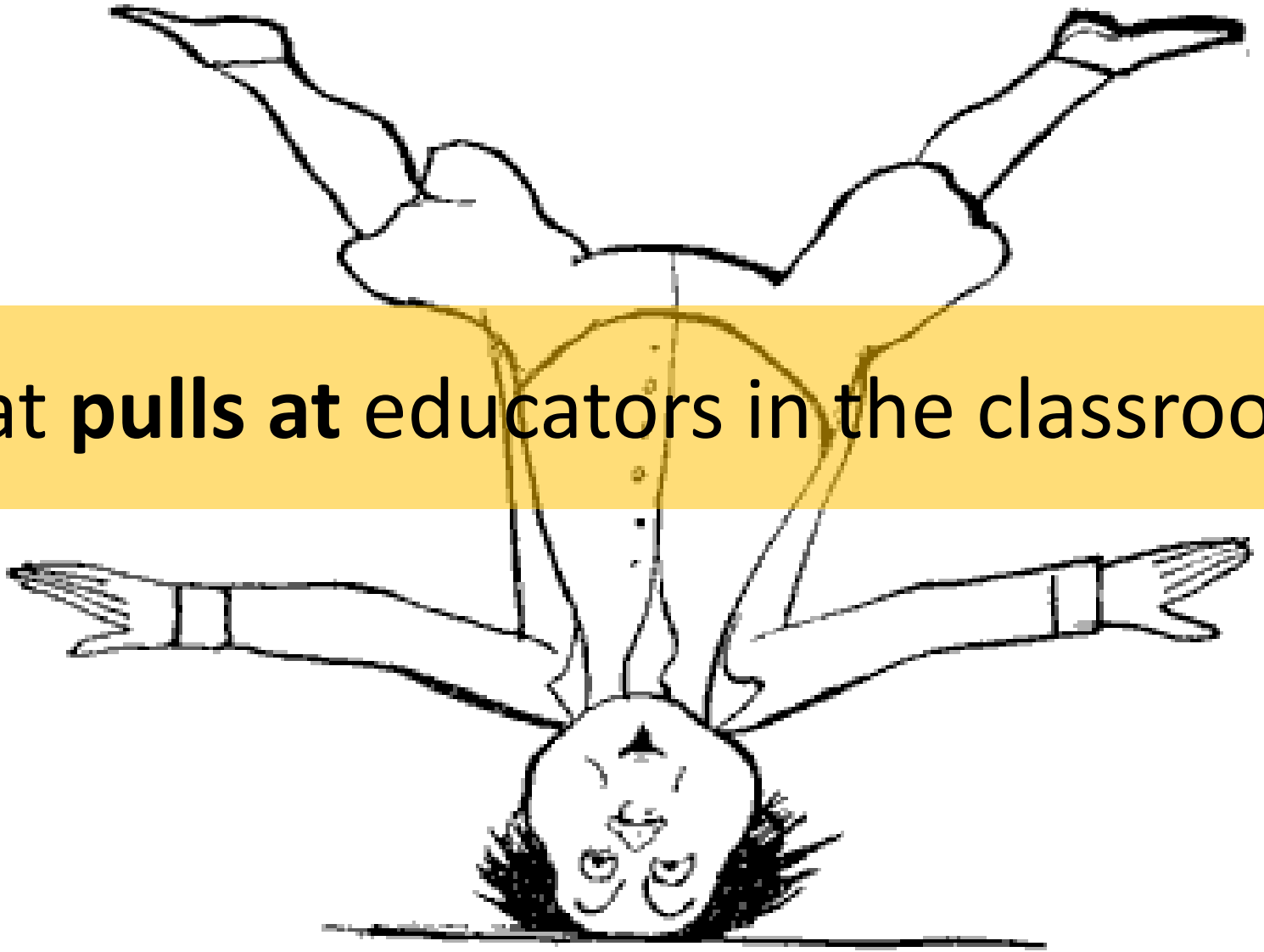
Technology

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

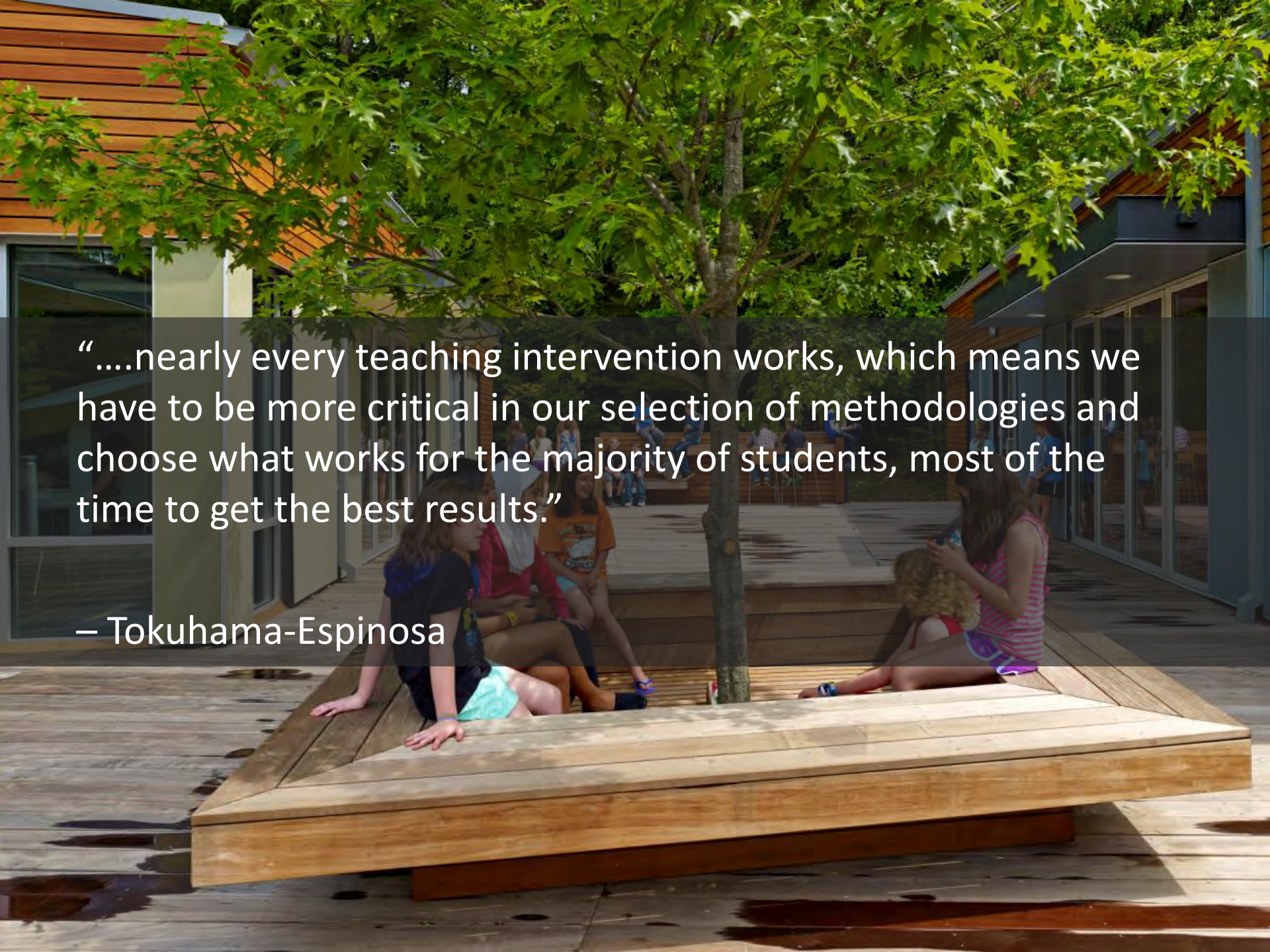
Educators

- 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

A photograph of a modern school courtyard. In the foreground, a large, low-profile wooden bench is built around a tree trunk. Several students are sitting on the bench, some looking at their phones. The courtyard is paved with light-colored stone tiles. In the background, there are modern school buildings with large glass windows and doors. A large, leafy green tree stands in the center of the courtyard, providing shade. The overall atmosphere is bright and sunny.

“....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.”

— Tokuhamma-Espinosa

“Space matters. We read our
physical environment like we read a
human face.”

– Doorly and Whithoft, *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-Espinoza

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....

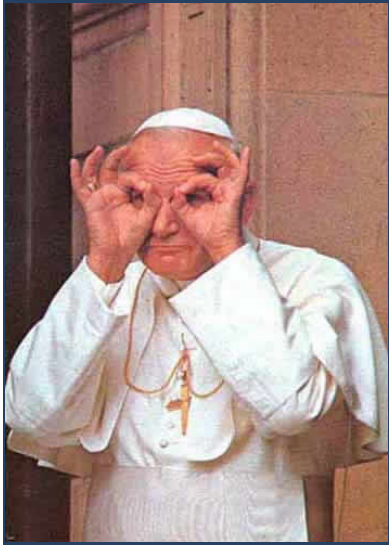
- Plan to incorporate repetition.
- Provide feedback for mastery learning.
- Plan activities that stimulate memory.
- Practice and foster metacognition and mindfulness.
- Cultivate the art of questioning.
- Keep abreast of technology.

#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 ...

