The

IMMERSIVE LEARNINGSCAPE

A Revolutionary Learning Environment for Innovative Charter Schools

by Tomas Jimenez-Eliaeson AIA, CEFPI
& Kate Alice Dunaway, Executive Director - Invest Collegiate Schools

Learning Objectives

At the end of this program, participants will be able to:

1. Explore the **'Sign of the Times'** in education that are leading us into the Learning Revolution.
2. Learn about **key *factors of the Learning Revolution***
3. Understand ***A Pattern Language*** for creating Immersive Learning Environments
4. **Case Study**:

   The Immersive LearningScape @ Invest Collegiate Charter School


QUESTIONS

QUESTIONS

Is our current education making us competitive in the global marketplace?

QUESTIONS

What skills will be needed to excel as we further move into the 3rd millennium?

QUESTIONS

What will their jobs be like?

1. App Developers (Creative Tech)
2. Market research Data Miner (Library science – Info gathering/summarizing)
3. Millennial Generational Expert (Social Networks)
4. Social Media Manager (Social Networks)
5. Chief Listening Officer (Social Spy)
6. Cloud Computing Services (Data Storage and Sharing)
7. Elder Care (Health and Communication – Baby Boomers)
8. Sustainability Expert (Global Warming / Green Economy)
9. User Experience Design (Right Brain thinking)
10. Academic and Admissions Consultant (Education and Access)

"10 jobs that did not exist 10 years ago" FORBES MAGAZINE

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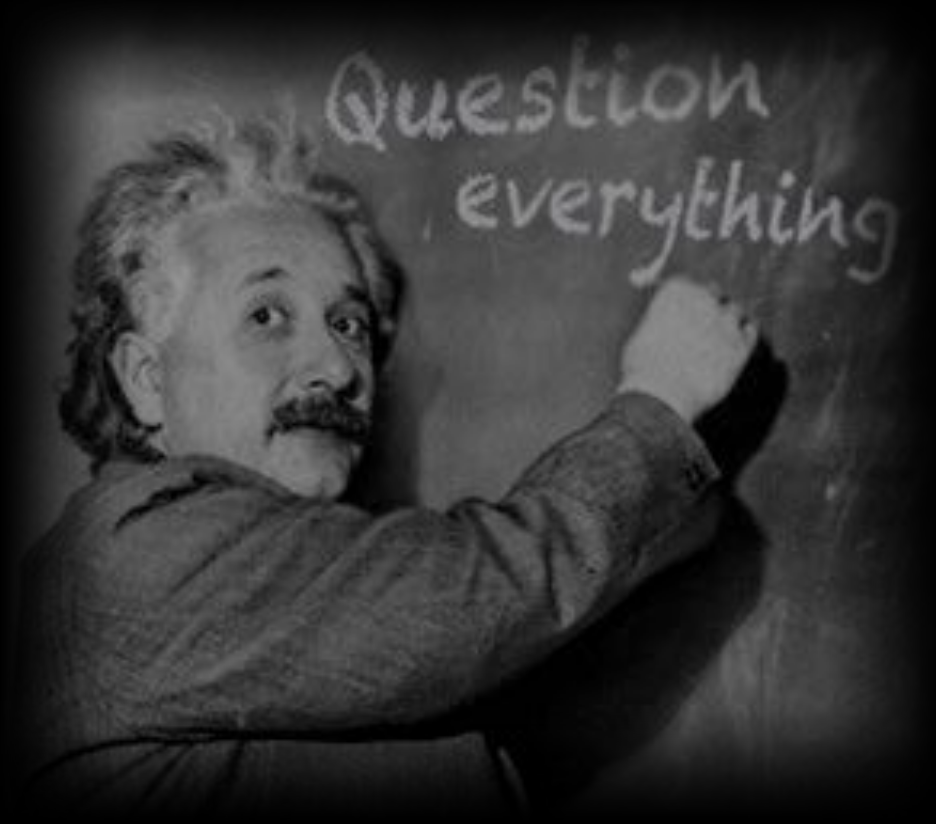
"10 jobs that did not exist 10 years ago" FORBES MAGAZINE

8 JOBS THAT WILL EXIST IN THE FUTURE

1. Digital Death Manager (“Life-Logging” Expert)
2. Un-Schooling Counselor (Evolution of the Traditional School Counselor)
3. Armchair Explorer (Digital Travelers/Problem Solvers)
4. 3-D Printing Handyman (Future Mr. Fix-it)
5. Microbial Balancer (Feng Shui of the Future)
6. Corporate Disorganizer (Masters of Organized Chaos)
7. Digital Detox Specialist (Fighting the Digital Overload)
8. The Urban Shepherd (Sustainable Infrastructure Maintainers)

“8 New Jobs People will Have in 2025” Fast Company



QUESTIONS

How do you create the ultimate inquisitive learning environment?

QUESTIONS

As acquiring content becomes more automated,

and

teamwork across disciplines becomes critical to a creative, conceptual, and innovative society,

what kinds of learning spaces will promote trans-disciplinary collaboration?

QUESTIONS

Why are we teaching in the same spaces as we did in the 19th Century?

QUESTIONS

Given the increasing introduction of technology in the classroom,

what will be the role of the teacher?

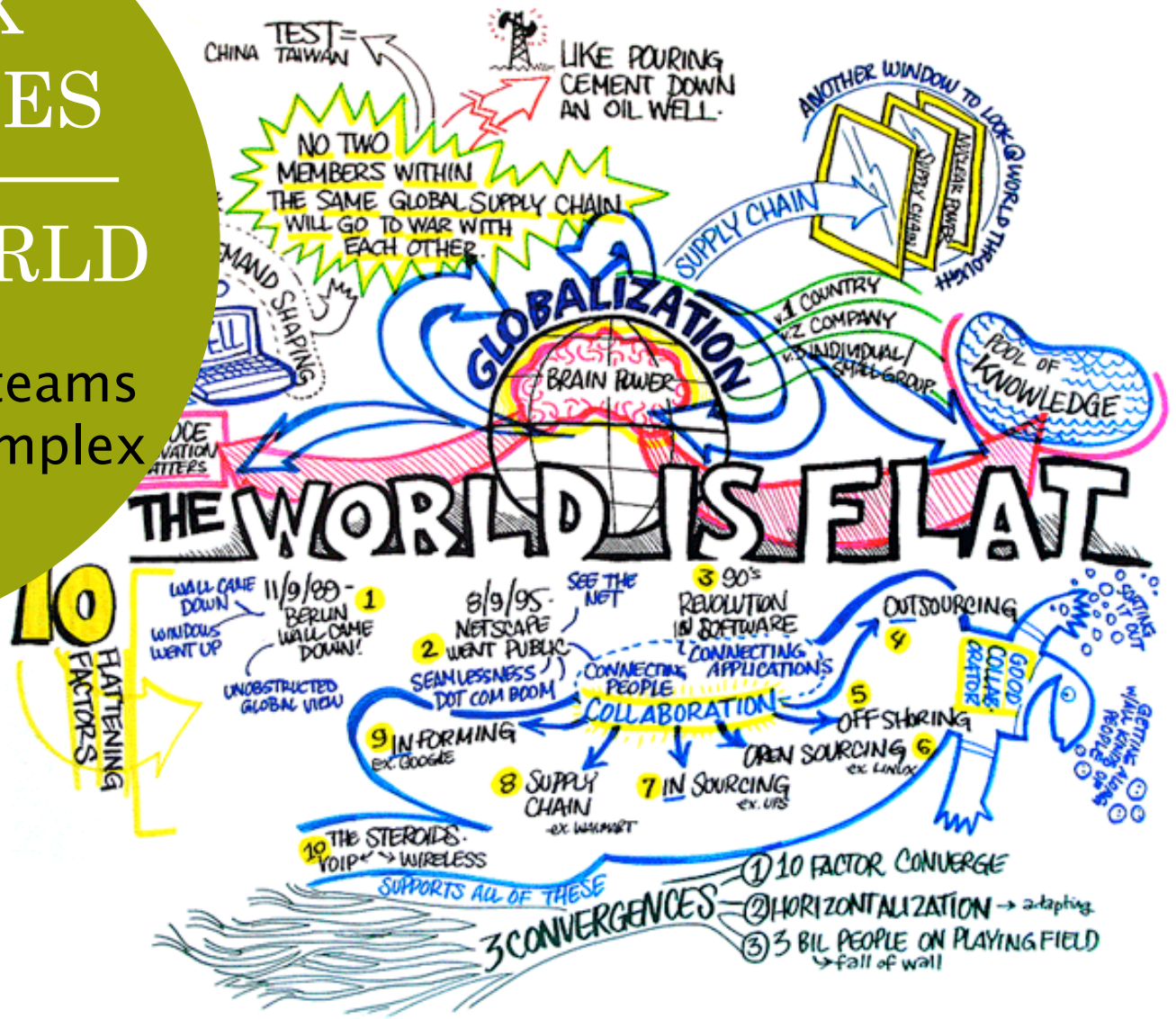
LEARNING OBJECTIVE #1

SIGN OF THE TIMES

As the world flattens, education will heighten.

COMPLEX CHALLENGES IN A GLOBAL WORLD

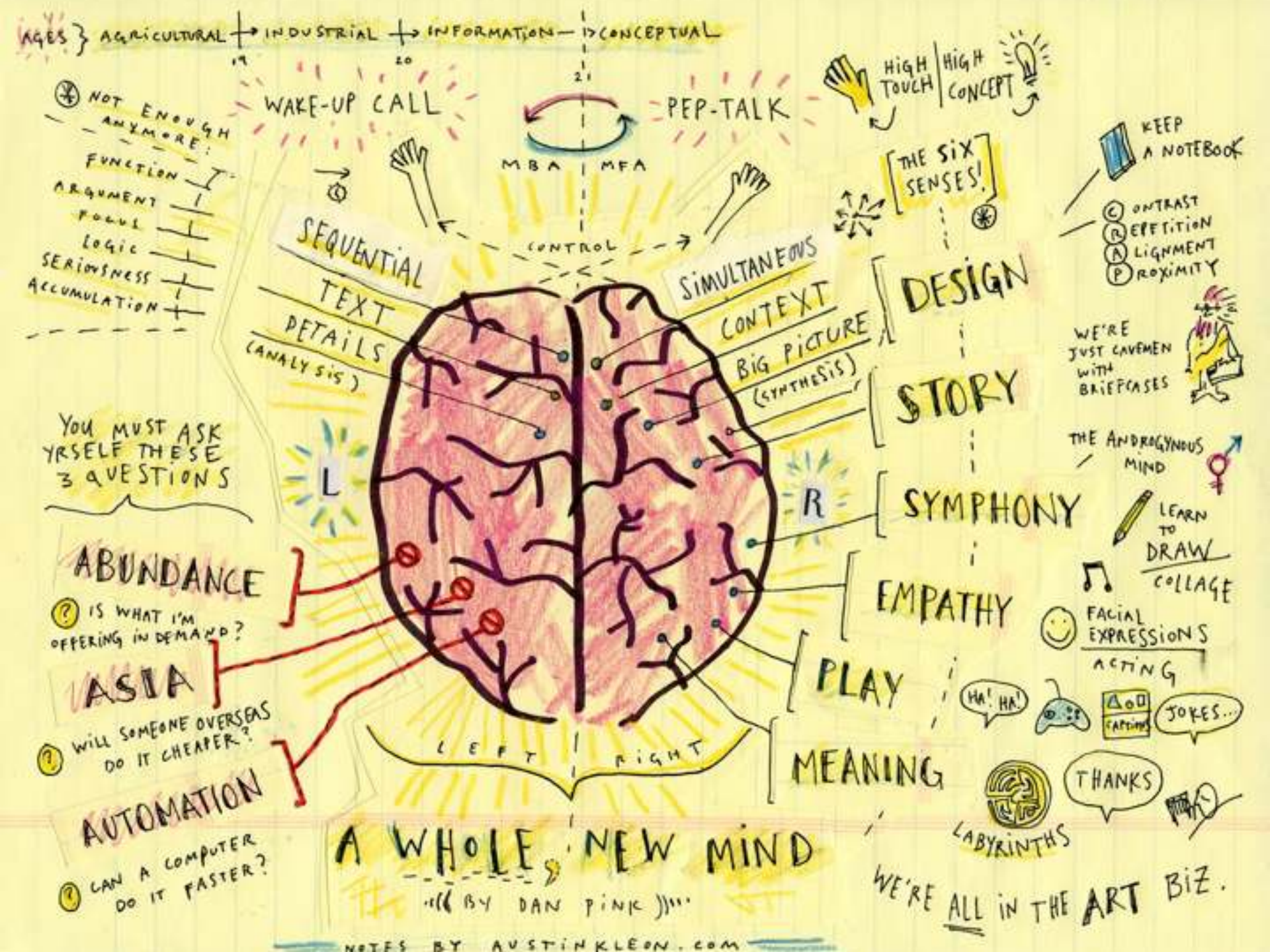
Multi-disciplinary teams needed to solve complex challenges



Thomas L. Friedman on The Charlie Rose Show discussing his book, "The World is Flat" • 04.05.05
graphic facilitation by Brandy Agerbeck • Loosetooth.com

WE NEED TO EDUCATE FOR A

Problem-solving society


AGES } AGRICULTURAL → INDUSTRIAL → INFORMATION → CONCEPTUAL
19
20
21
NOT ENOUGH ANYMORE:
FUNCTION
ARGUMENT
FOCUS
LOGIC
SERIOUSNESS
ACCUMULATION
WAKE-UP CALL
PEP-TALK
MBA | MFA
CONTROL
SEQUENTIAL
TEXT
DETAILS
(ANALYSIS)
SIMULTANEOUS
CONTEXT
BIG PICTURE
(SYNTHESIS)
L
R
HIGH TOUCH | HIGH CONCEPT
THE SIX SENSES!
DESIGN
STORY
SYMPHONY
EMPATHY
PLAY
MEANING
KEEP A NOTEBOOK
CONTRAST
REPETITION
ALIGNMENT
PROXIMITY
WE'RE JUST CAVEMEN WITH BRIEFCASES
THE ANDROGYNOUS MIND
LEARN TO DRAW
COLLAGE
FACIAL EXPRESSIONS
ACTING
HA! HA!
JOKES...
THANKS
LABYRINTHS
YOU MUST ASK YRSELF THESE 3 QUESTIONS
ABUNDANCE
IS WHAT I'M OFFERING IN DEMAND?
ASIA
WILL SOMEONE OVERSEAS DO IT CHEAPER?
AUTOMATION
CAN A COMPUTER DO IT FASTER?
LEFT | RIGHT
A WHOLE NEW MIND
BY DAN PINK
WE'RE ALL IN THE ART BIZ.
NOTES BY AUSTINKLEON.COM


QUALITY OF EDUCATION
What are the skills they will need?

21st CENTURY SKILLS

Problem Solving

Critical Thinking

Technology-Savviness

Leadership Skills

Communication Skills

Collaboration Skills

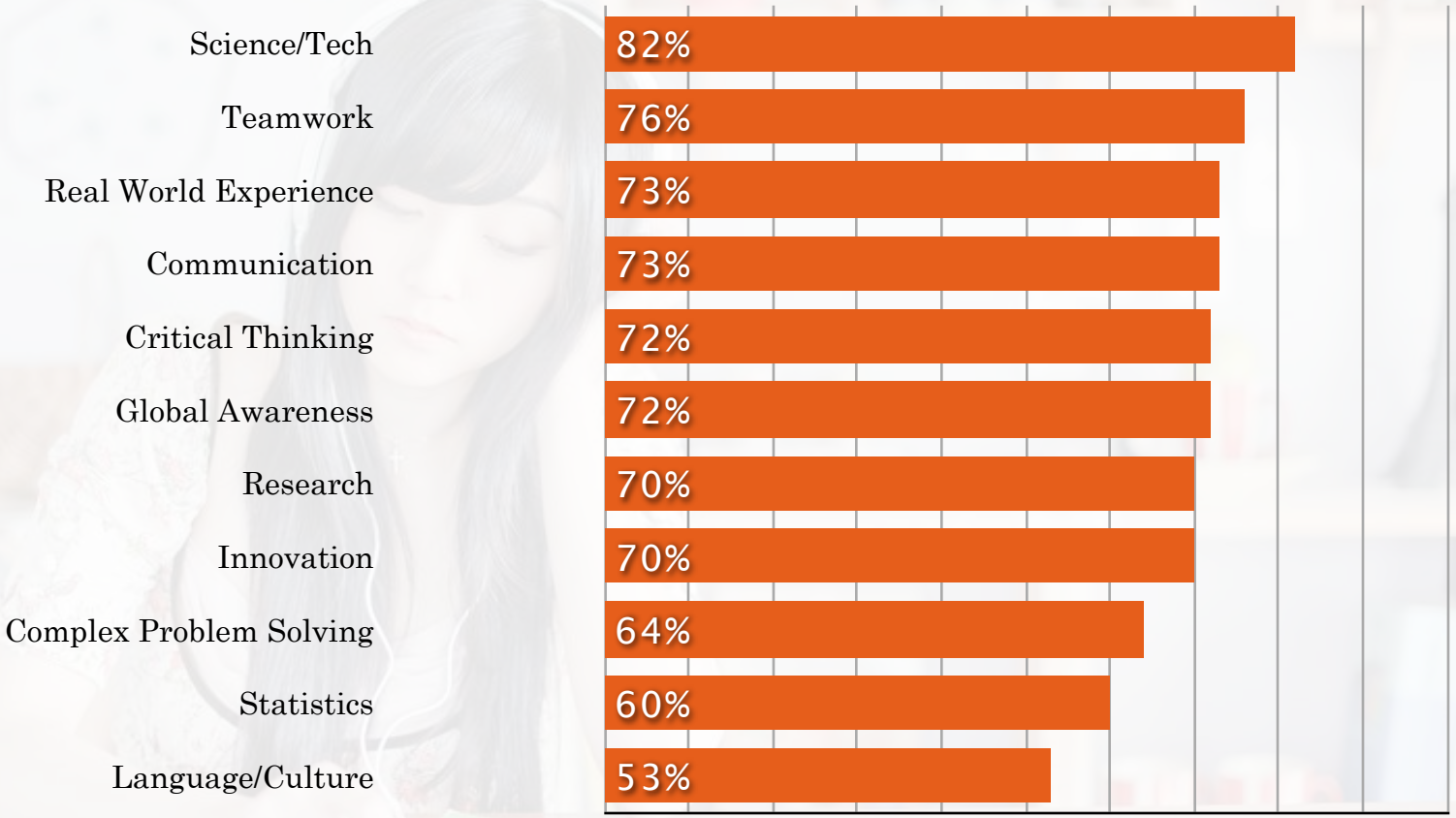
Global Knowledge

Languages

Interdisciplinary Skills

Creative Skills

21st CENTURY EMPLOYER NEEDS



"What Employers are Looking for in College Graduates" survey by Association of American Colleges & Universities - 2007


STUDENT VOICES
on engagement
ENGAGE US MORE.
POINTLESS.
I'M ENGAGED IN TWO OUT OF MY SEVEN CLASSES.
I'M BORED 99 PERCENT OF THE TIME.

WHY AREN'T STUDENTS PREPARED FOR COLLEGE?

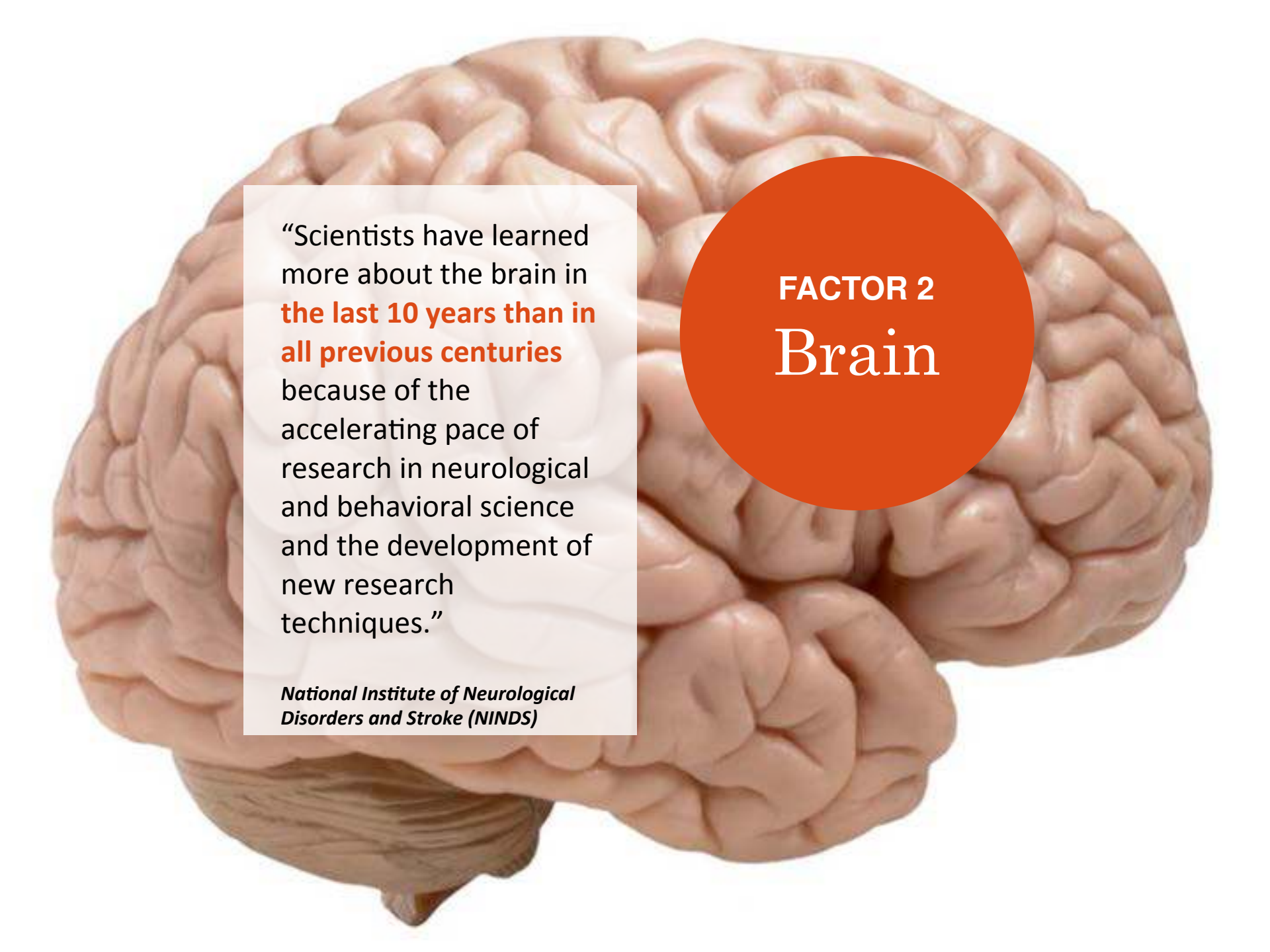
Overall, teachers ranked **"Lack of motivation"** as the #1 reason

	TOTAL	ES	MS	HS
Lack of participation in CP	2%	2%	2%	3%
Poor reading and comm. skills	19%	20%	17%	15%
Lack of critical thinking skills	17%	18%	16%	17%
Lack of encouragement	27%	34%	22%	15%
Lack of motivation	**34%**	**25%**	**43%**	**49%**
Not sure	1%	1%	0%	1%


LEARNING OBJECTIVE #2
We are entering a
LEARNING
REVOLUTION

FACTOR 1

Technology



FACTOR 2

Brain

"Scientists have learned more about the brain in **the last 10 years than in all previous centuries** because of the accelerating pace of research in neurological and behavioral science and the development of new research techniques."

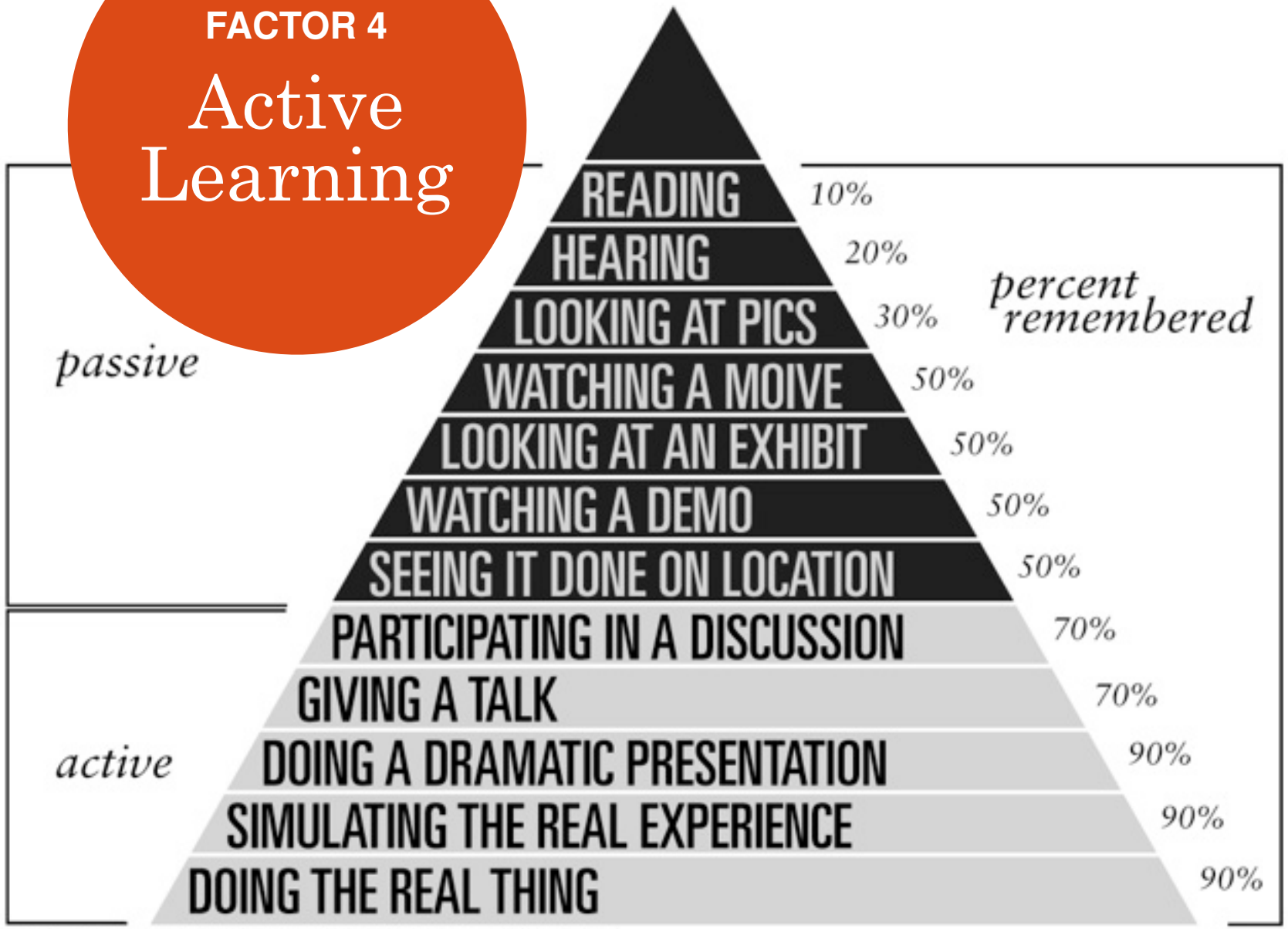
National Institute of Neurological Disorders and Stroke (NINDS)

FACTOR 3

Customization

FACTOR 4

Active Learning



SOURCE - *Active Learning - Creating excitement in the classroom.* 1991. Bonwell and Eison

FACTOR 5

Paradigm Shift

20th Century

INDUSTRIAL AGE

Mechanization & Sequentiality

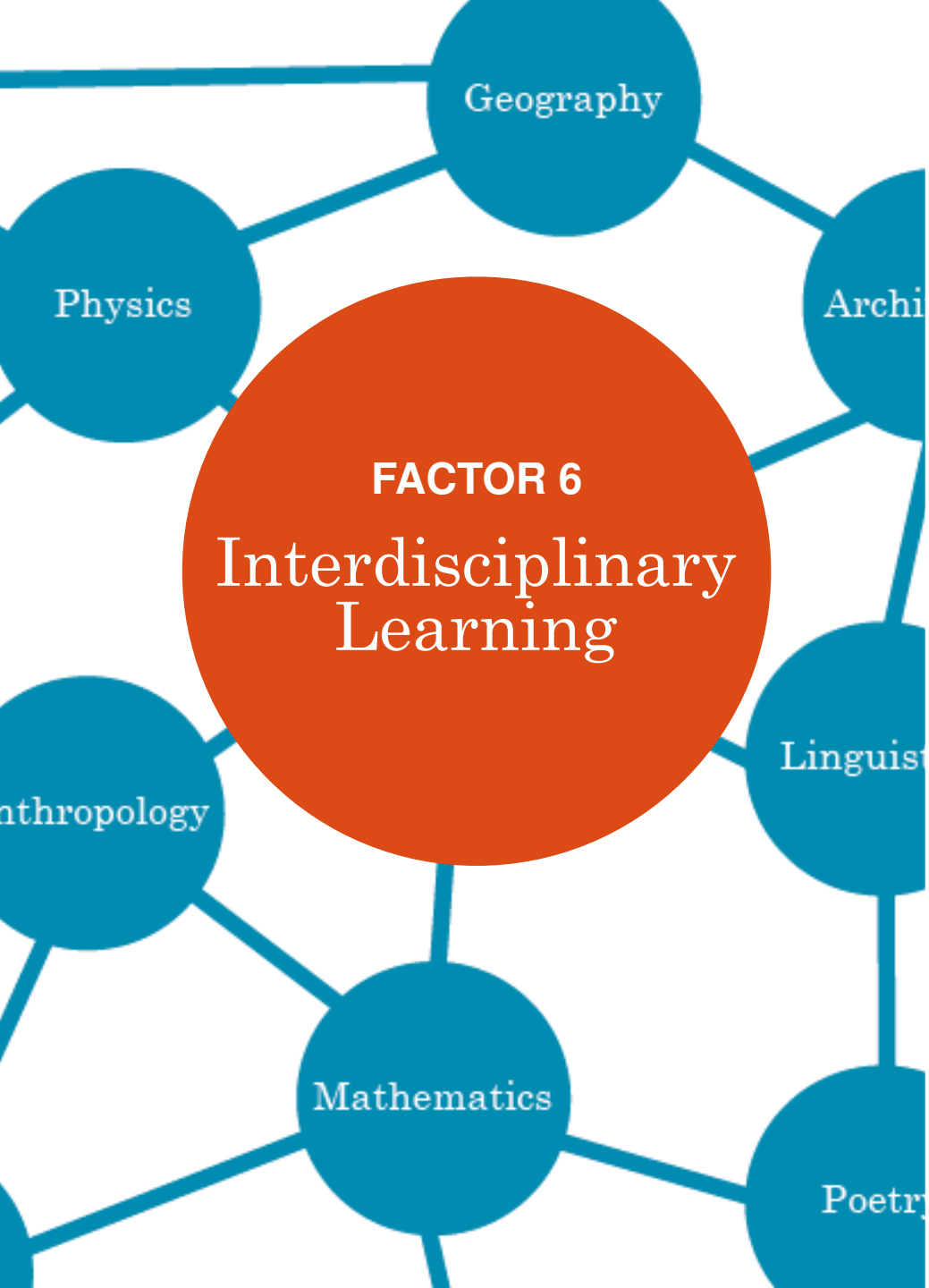
Vs.

21st Century

CONCEPTUAL AGE

Instant Access to Information & Simultaneity

Marshall McLuhan



20th Century

Linear Learning =

1 isolated discipline per hour

21st Century

Cross-Disciplinary Learning =

Multiple disciplines simultaneously


FACTOR 7
Relevance
learn here. apply there

FACTOR 8

Redefining the role of the Teacher

guide, inspire, and troubleshoot

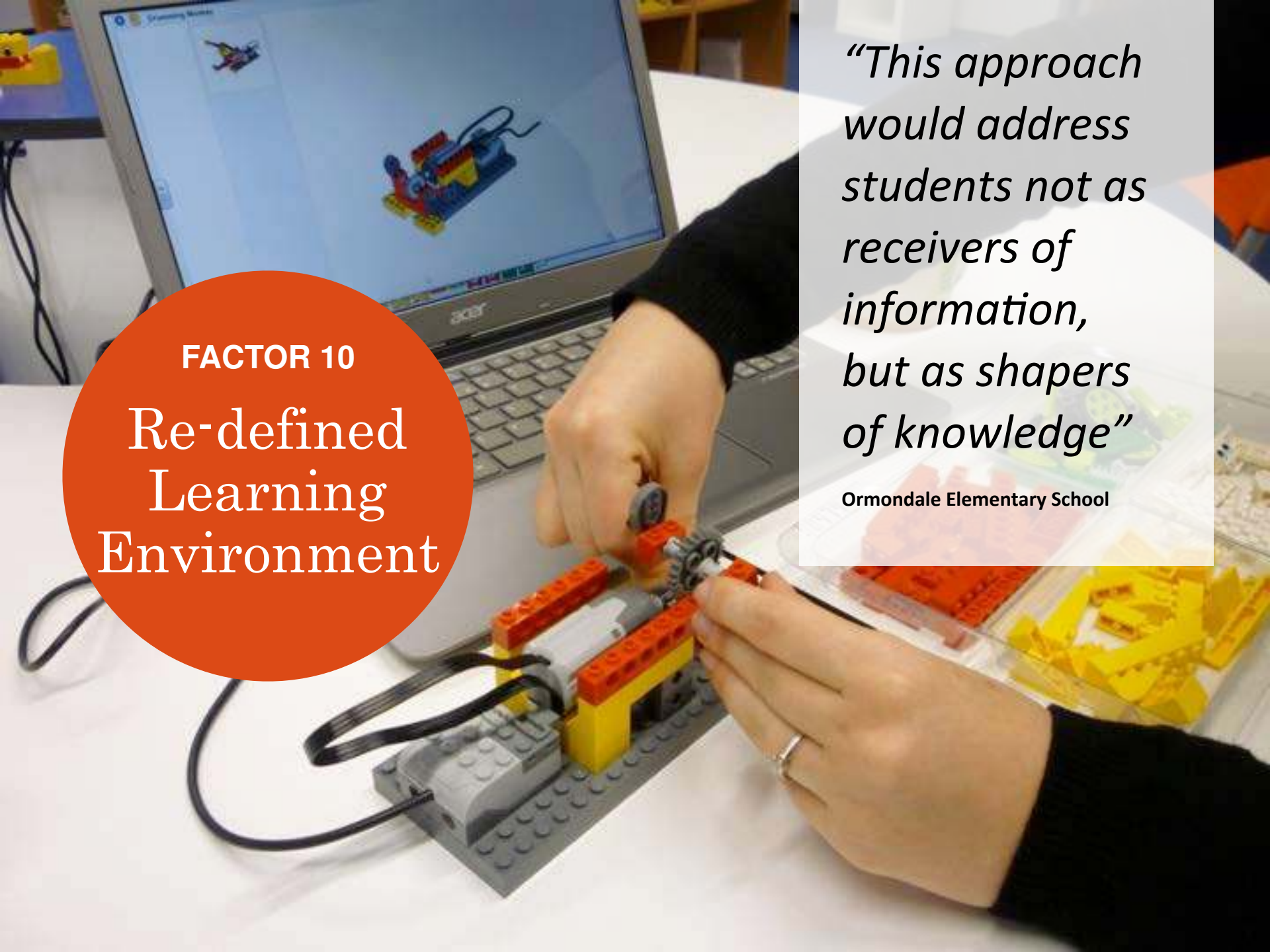
"The problem-solving process cannot be taught; it has to be experienced"

Ben Johnson

FACTOR 9

Re-designing the Curriculum

Inquisitive & Experiential Learning



FACTOR 10

Re-defined Learning Environment

"This approach would address students not as receivers of information, but as shapers of knowledge"

Ormondale Elementary School

TECHNOLOGY

Augmented Reality Technology

Blended Learning

Technology

1-to-1 learning

Teacher 1-to-1 supervision

Flipped Classroom

WHAT IS THE FLIPPED CLASSROOM?

The flipped classroom inverts traditional teaching methods, delivering instruction online outside of class and moving "homework" into the classroom.

THE INVERSION

The Traditional Classroom
Teacher's Role: Sage on the Stage

The Flipped Classroom
Teacher's Role: Guide on the Side

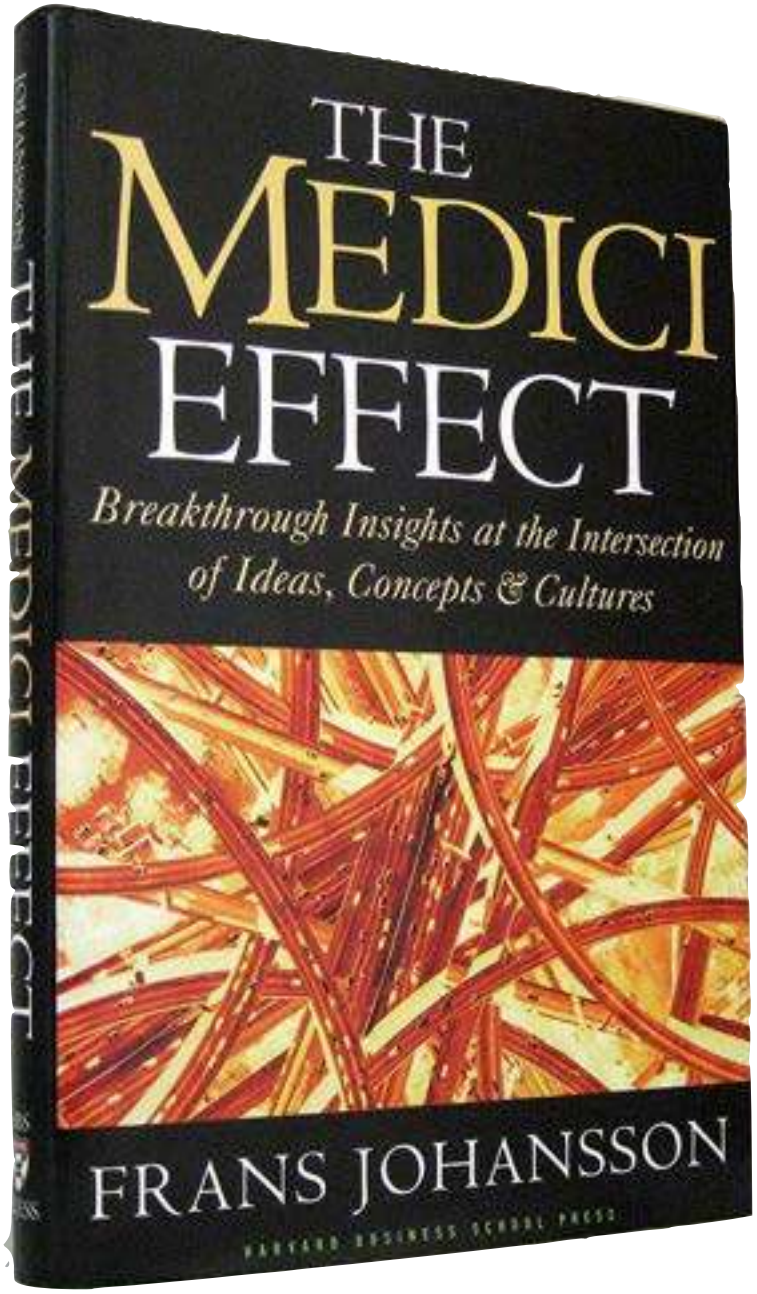
Technology

Prosumer = Producing + Consumer

With the proliferation of digital networks the world over, the electronic marketplace has gone from empowering the consumer to supporting a global civic society. Power to the people.

SOURCE: The Third Wave, Alvin Toffler


INTERSECTIONAL IDEAS
FOR A
CONCEPTUAL & INTERSECTIONAL WORLD

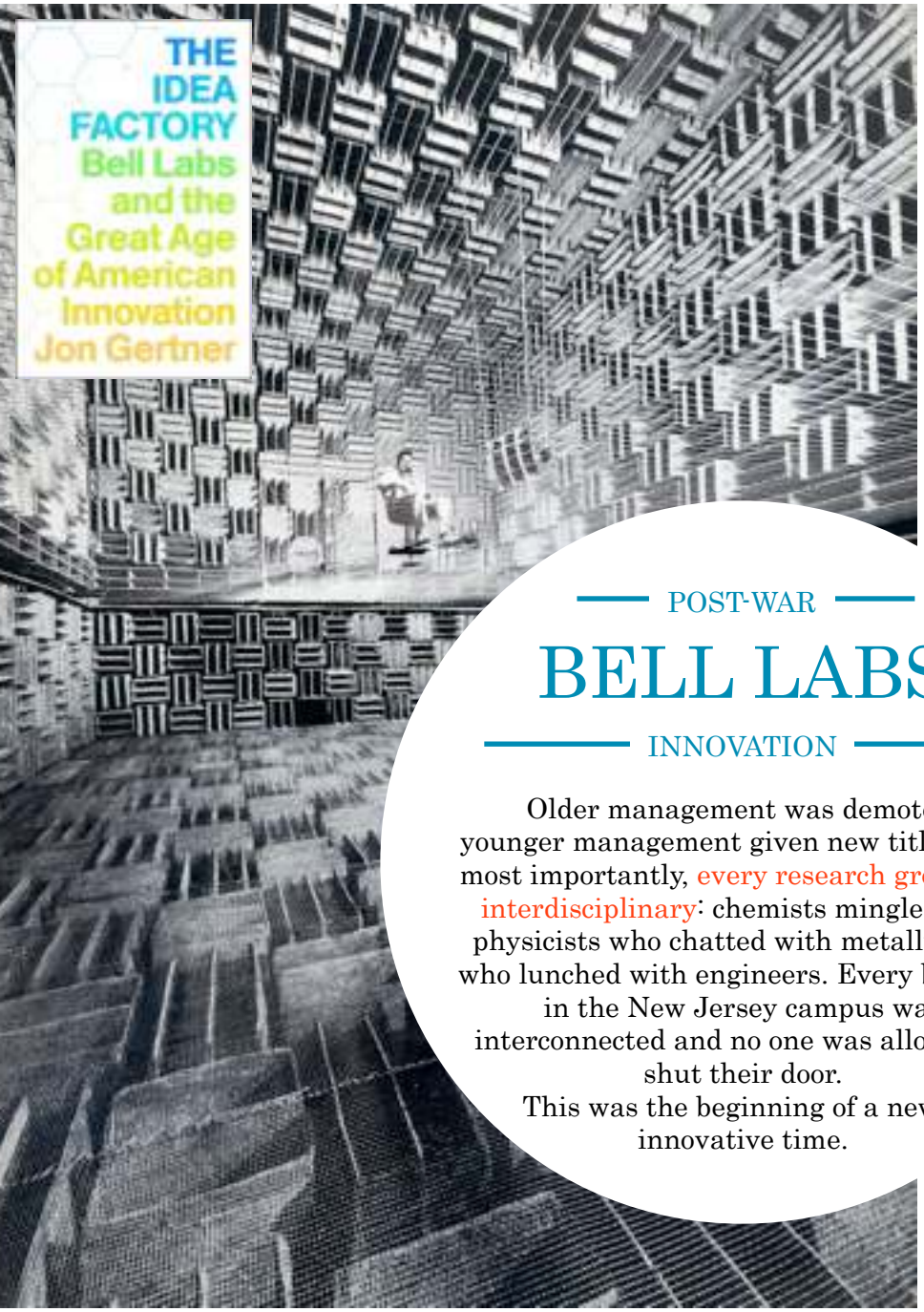


INTERSECTION

AND

INNOVATION

Diverse teams create far more ideas than homogenous teams



POST-WAR

BELL LABS

INNOVATION

Older management was demoted, younger management given new titles, and, most importantly, every research group was interdisciplinary: chemists mingled with physicists who chatted with metallurgists who lunched with engineers. Every building in the New Jersey campus was interconnected and no one was allowed to shut their door.
This was the beginning of a newly innovative time.

Bell Labs: A Hive of Invention

A selection of its most important innovations in the decades leading up to the breakup of its parent company, AT&T, in 1984, and how they helped lead to some of the latest technologies.

1920s

1925 First high-fidelity sound recording The reproducible sound range is extended by more than an octave at each end of the scale.

1925 Fax service First commercially successful facsimile or telephotography system in the U.S.; an early data network.

1927 Negative feedback amplifier Cuts distortion in long-distance telephony; also aids development of radio and high-fidelity amplifiers.

1927 First long-distance television transmission Live television images of Herbert Hoover are sent via phone lines from Washington to New York.

This building, on West Street in Manhattan, became the home of Bell Labs in 1925.

1930s

1932 Radio astronomy Earliest detection of radio noise coming from the center of the Milky Way galaxy.

1932 Wide-range audio reproduction A speaker system is divided into three bands using bass woofers, midrange horns and tweeters.

1933 First transmission of stereo sound A symphony concert is broadcast live over telephone lines from Philadelphia to Washington.

1937 First electronic speech synthesizer Recreates human speech.

1939 First binary digital computer Mathematical operations performed in binary form, using on-off relays. It took 30 seconds to determine the quotient of two eight-digit numbers.

1940s

1940 First long-distance computing Remote operation of a computer, at Bell Labs in New York, by a teletypewriter in New Hampshire.

1946 First commercial mobile phone service At most, three subscribers per city could make calls at one time; each caller's phone apparatus weighed almost 80 pounds.

1947 Cellular telephone technology A Bell Labs paper was the first to propose a network of small interlocking cell sites tracking users as they move, passing their calls from one site to another without dropping the connection.

1947 The transistor A landmark invention. Replaced vacuum tubes and mechanical relays; transformed electronics.

1948 Information theory Calculates maximum capacity for any communications system and shows how to send digital messages essentially error-free. Enabled data compression and cryptography.

The Murray Hill, N.J., buildings opened in 1941.

1950s

1951 Direct-distance dialing No operator necessary for long-distance calls.

1954 Solar cells First use of the sun's energy to create a practical level of electricity.

1956 First transatlantic telephone cable Designed and implemented by Bell Labs; could carry up to 36 simultaneous calls.

1957 Digitized music First demonstrations of digitized and computer-synthesized music.

1958 The laser "Light Amplification by Stimulated Emission of Radiation" was described in a Bell Labs paper. It is crucial for communications, surgical and DVD technologies.

1960s

1962 Digital transmission, switching First digital transmission of multiple voice signals.

1960-62 First communications satellites Echo is first to reflect a voice signal from coast to coast; Telstar I shows an orbiting relay can amplify and resend multiple phone and TV transmissions.

1962 Paging system Bellboy pager is introduced at the Seattle World's Fair.

1963 Touch-tone telephone Enables voice mail and call centers.

1965 Evidence of the Big Bang Discovery of cosmic background radiation from beyond the Milky Way.

1969 Charge-coupled device A solid-state chip that transforms patterns of light into information. Vital to digital cameras, high-definition television, medical endoscopes and video conferencing.

Bell Labs opened in Holmdel, N.J., in 1962. It was vacated in 2007.

1970s and '80s

1969-72 UNIX operating system and C programming language Makes large-scale networking of varied computing systems, and the Internet, practical.

1976 Fiber-optic network The first test of Bell Labs' experimental lightwave communication system begins in Atlanta. Information is carried by pulses of light.

1978 First commercial cellular network Installed by Bell Labs in Chicago.

1979 Digital signal processor An essential component of cellphones, modems, PCs and video game systems.

1980 Digital cellular phone Better sound quality, greater channel capacity, lower cost.

1982 Fractional quantum hall effect Discovery of a new state of subatomic matter that wins the Nobel Prize.

PHONES

SPACE

INTERNET

MUSIC

CELLPHONES

RADIO

TELEVISION

Source: Alcatel-Lucent

BILL MARSH/THE NEW YORK TIMES

LEFT AND CENTER PHOTOS COURTESY OF ALCATEL-LUCENT USA INC. AND THE AT&T ARCHIVES AND HISTORY CENTER; RIGHT PHOTO: EZRA STOLLER/ESTO

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BILL MARSH/THE NEW YORK TIMES

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Interdisciplinary thinking for solving challenges

Volvo and Locusts

Interdisciplinary thinking for solving challenges

Volvo and Locusts


HOW CAN WE CREATE
A LEARNING ENVIRONMENT
THAT SUPPORTS A
CULTURE OF INNOVATION ?

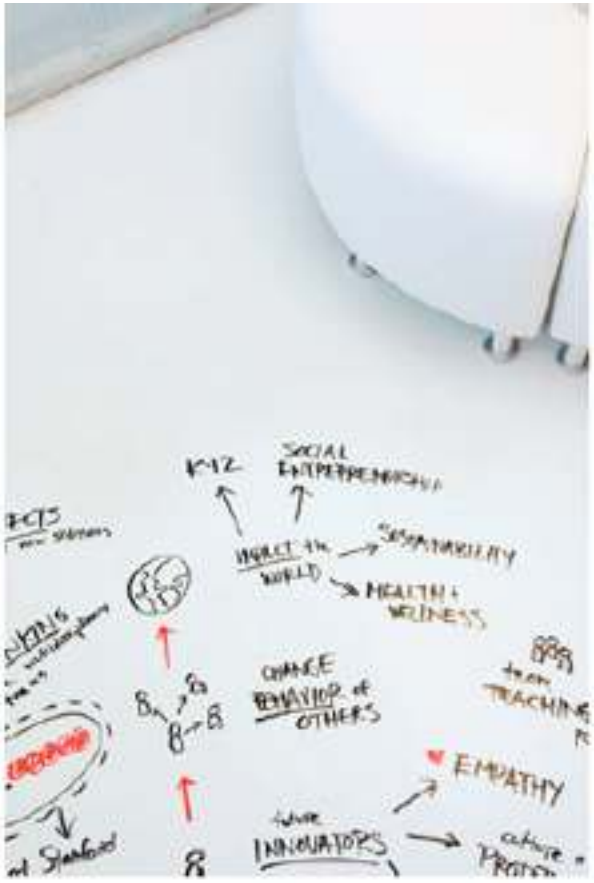
LEARNING OBJECTIVE #3

8 IMMERSIVE LEARNINGSCAPE PATTERNS

the learning revolution's impact
on educational environments

Pattern 1: Sketch-Scape

Sharing Knowledge



Pattern 2: Transparency

Cross-Pollination of Ideas

Pattern 3: Tinkering Space

Creative Space

Pattern 4: Immersive-Scape

Relevance of Knowledge

Pattern 5: Unifying Space

Collaboration

Pattern 6: Play-Scape

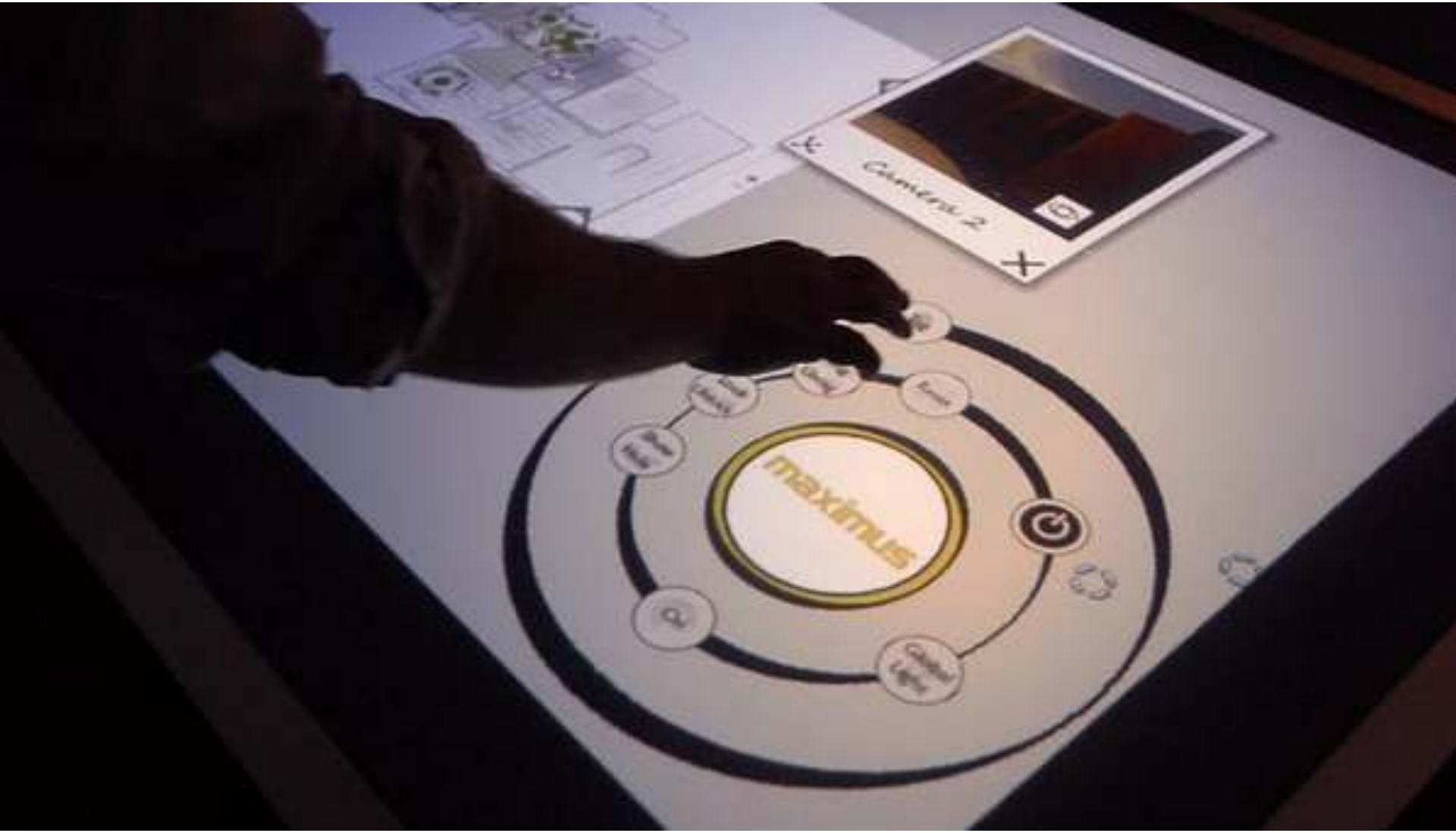
Fun-scape

Pattern 7: Adaptability

Flexibility

Pattern 8: Technology-infused Learning

Active & Engaging Tools



methodologies of

TEACHING

vs.

typologies of

LEARNING

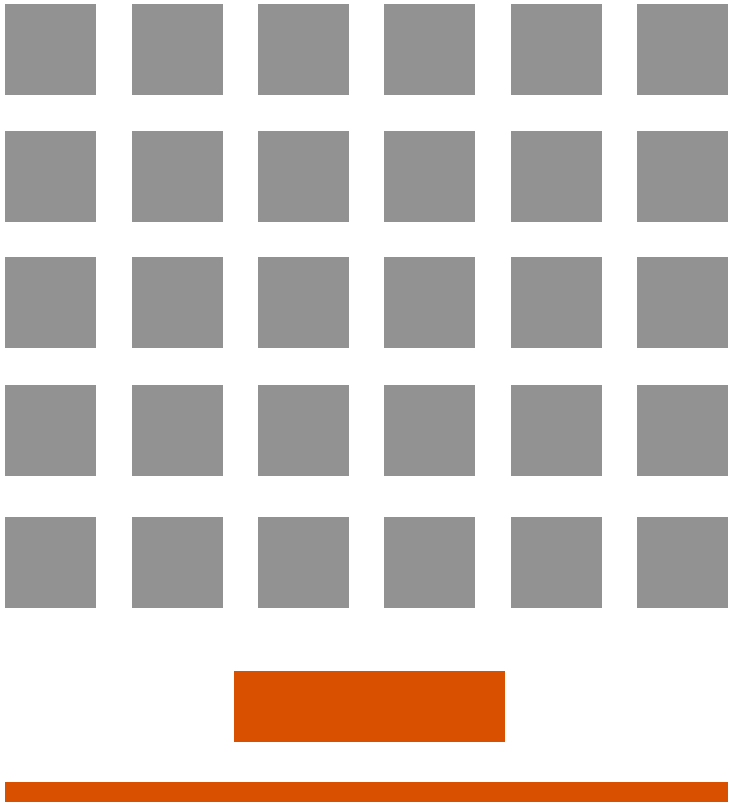
methodologies of

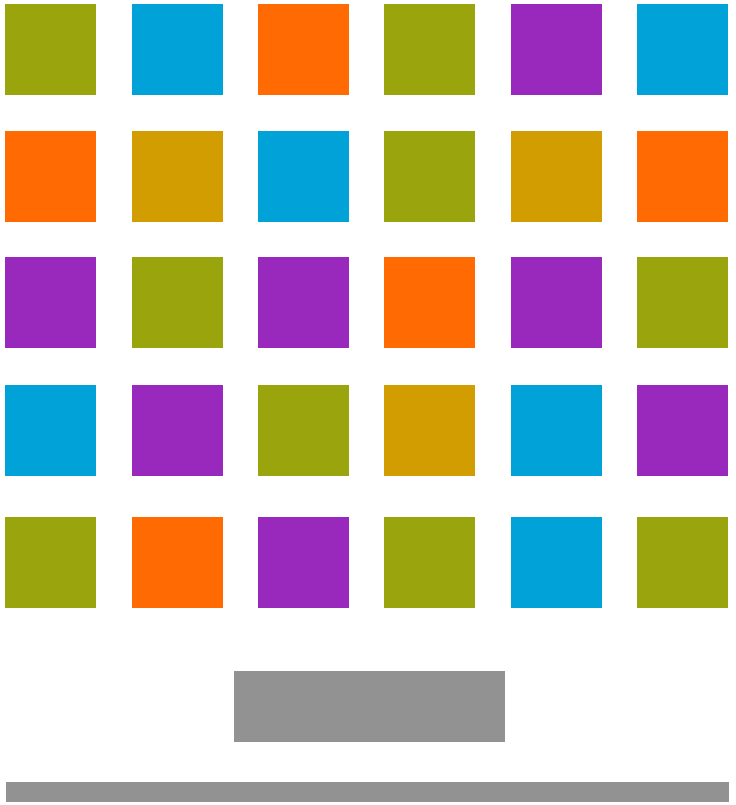
TEACHING

vs.

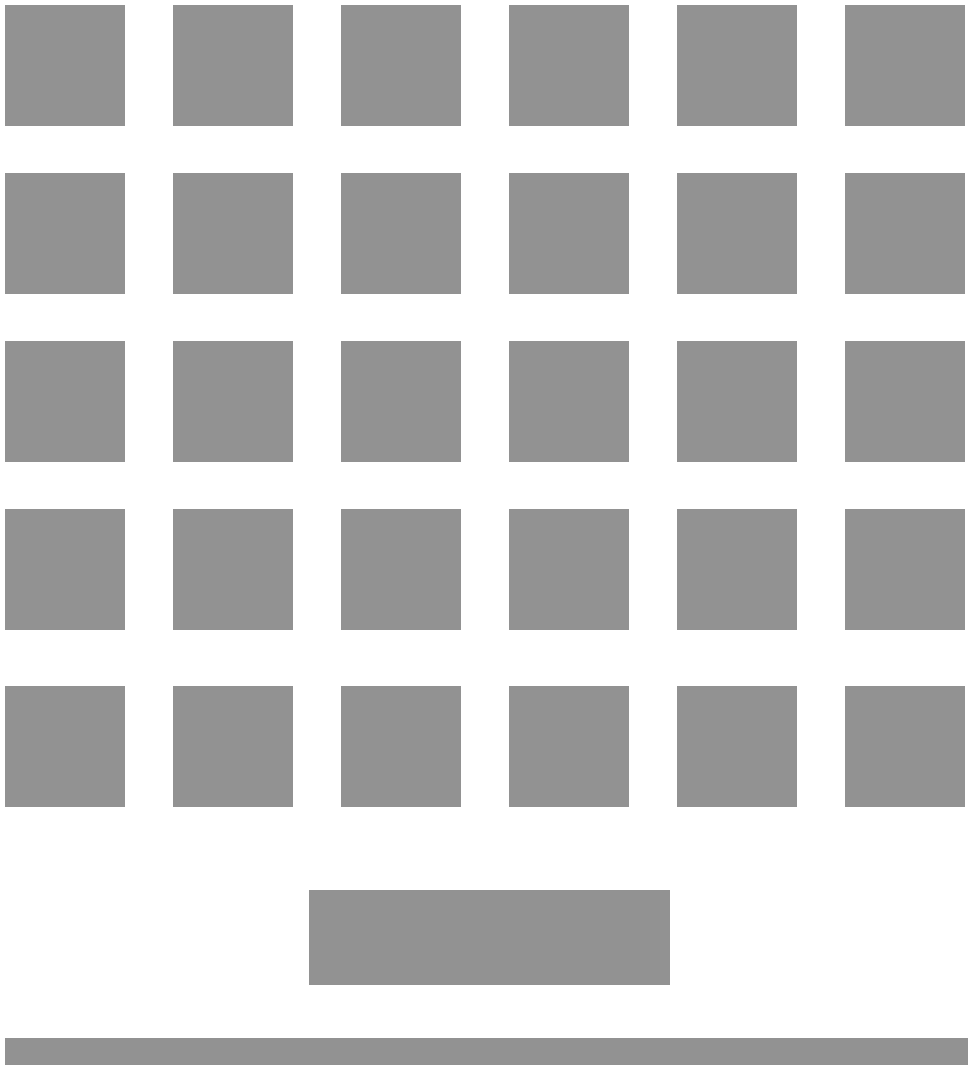
typologies of

LEARNING





classROOM



vs. learningSCAPE

typologies of

LEARNING – space

typologies of

LEARNING-SPACE

THINK

CREATE

DISCOVER

IMPART

EXCHANGE

typologies of

LEARNING-SPACE

THINK

CREATE

DISCOVER

IMPART

EXCHANGE

Think-Scape

A Space that Supports a "Thinking Curriculum"

Think-Scape

A Space for Research

Think-Scape

A Space for Critical Thinking

Think-Scape

A Space for Assessment

Think-Scape

A Space for Visual and Audio Recording

Think-Scape

A Space for Individual Distance Learning

typologies of

LEARNING-SPACE

THINK

CREATE

DISCOVER

IMPART

EXCHANGE

Create-Scape

A Space for Teamwork

Create-Scape

A Space for Collaboration

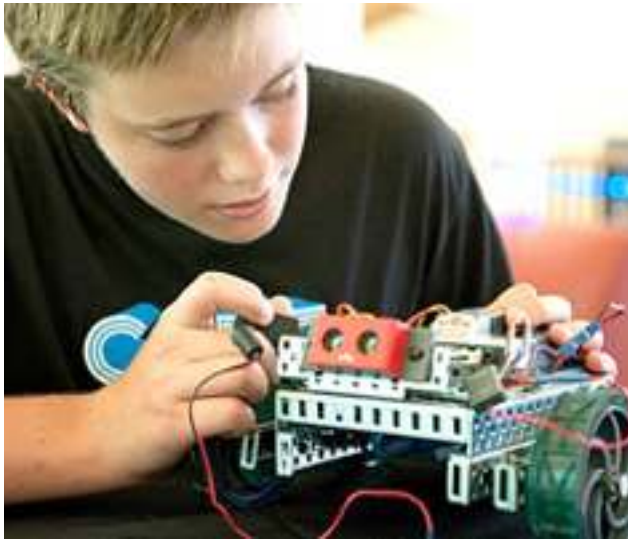
A Space that Supports Communication

Create-Scape

A Space that Records Collaborative Ideas

Create-Scape

A Space that Supports STEM & STEAM Education



Case Study Sarasota's Classroom of Tomorrow

Create-Scape

A Space that Supports Project-Based Learning

typologies of

LEARNING-SPACE

THINK

CREATE

DISCOVER

IMPART

EXCHANGE

Discover-Scape

A Space for Hands On Investigative Learning

Discover-Scape

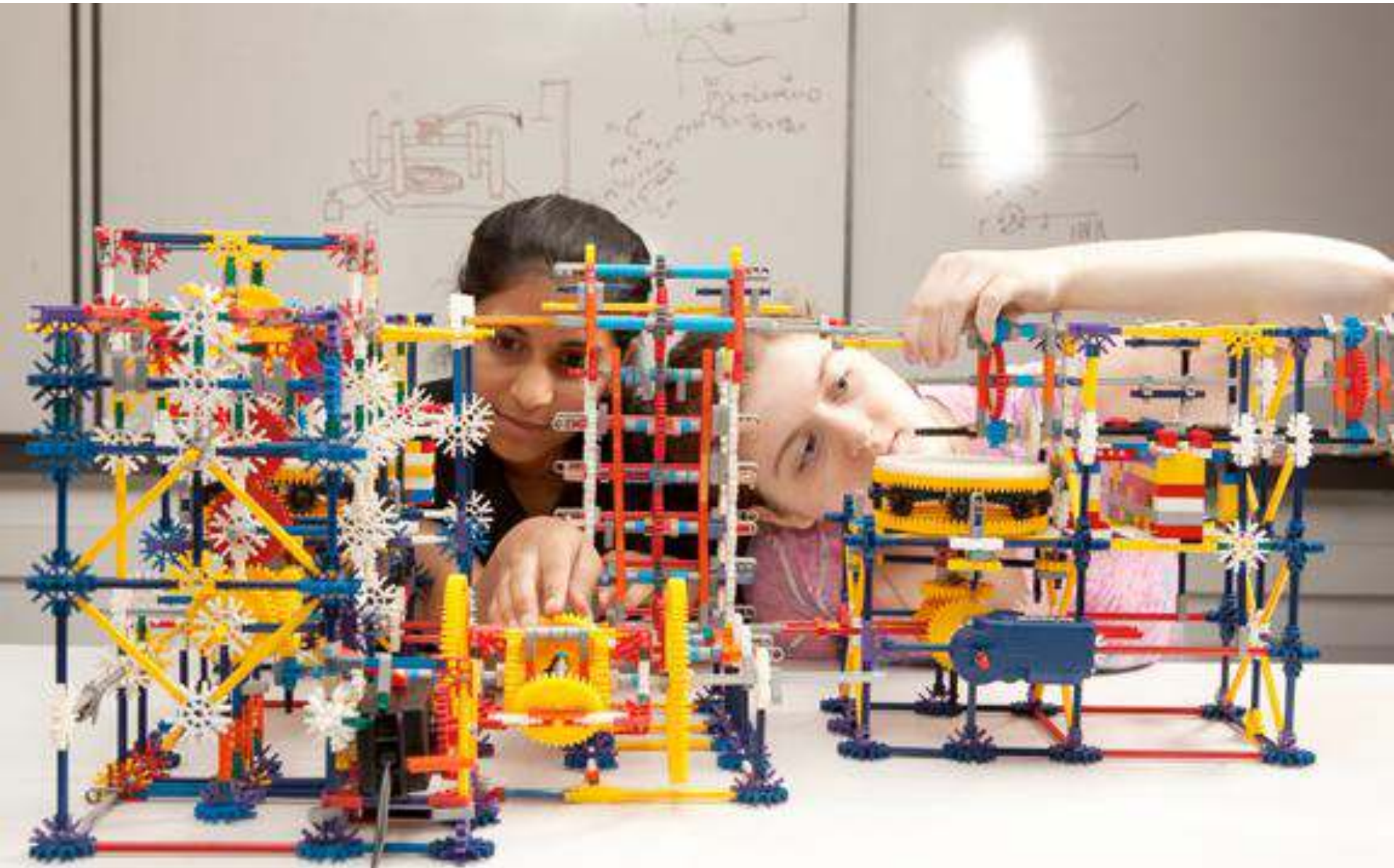
A Space for Tinkering

Discover-Scape

A Space for Production

Discover-Scape

A Space for Failure



Discover-Scape

A Space for Idea Application

Discover-Scape

A Space for Specificity

typologies of

LEARNING-SPACE

THINK

CREATE

DISCOVER

IMPART

EXCHANGE

Impart-Scape

A Space for Sharing

Impart-Scape

A Space for Teaching

Impart-Scape

A Space for Quick Lessons

Impart-Scape

A Space for Group Distance Learning

typologies of

LEARNING-SPACE

THINK

CREATE

DISCOVER

IMPART

EXCHANGE

Exchange-Scape

A Space for Social Learning

Exchange-Scape

A Space for Co-Planning & Co-Teaching

Exchange-Scape

A Space for Interactions

Exchange-Scape

A Space for Informal Conversation

Exchange-Scape

A Space for Serendipity

Exchange-Scape

A Space for Exhibiting

LEARNING OBJECTIVE #4

CASE STUDY

- **Invest Collegiate Charter School,** Charlotte, NC

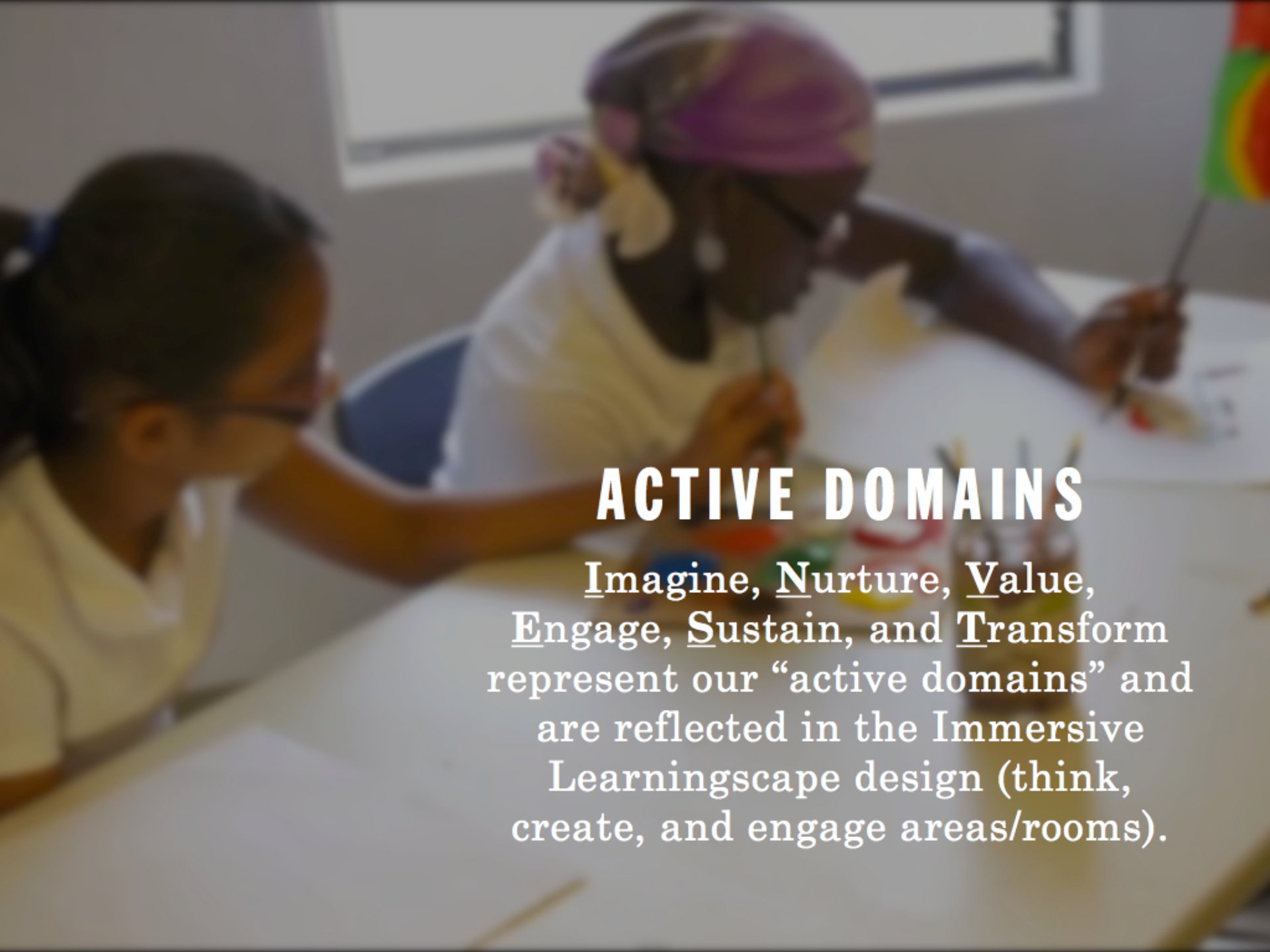
INVEST
COLLEGIATE

GOALS

for the school

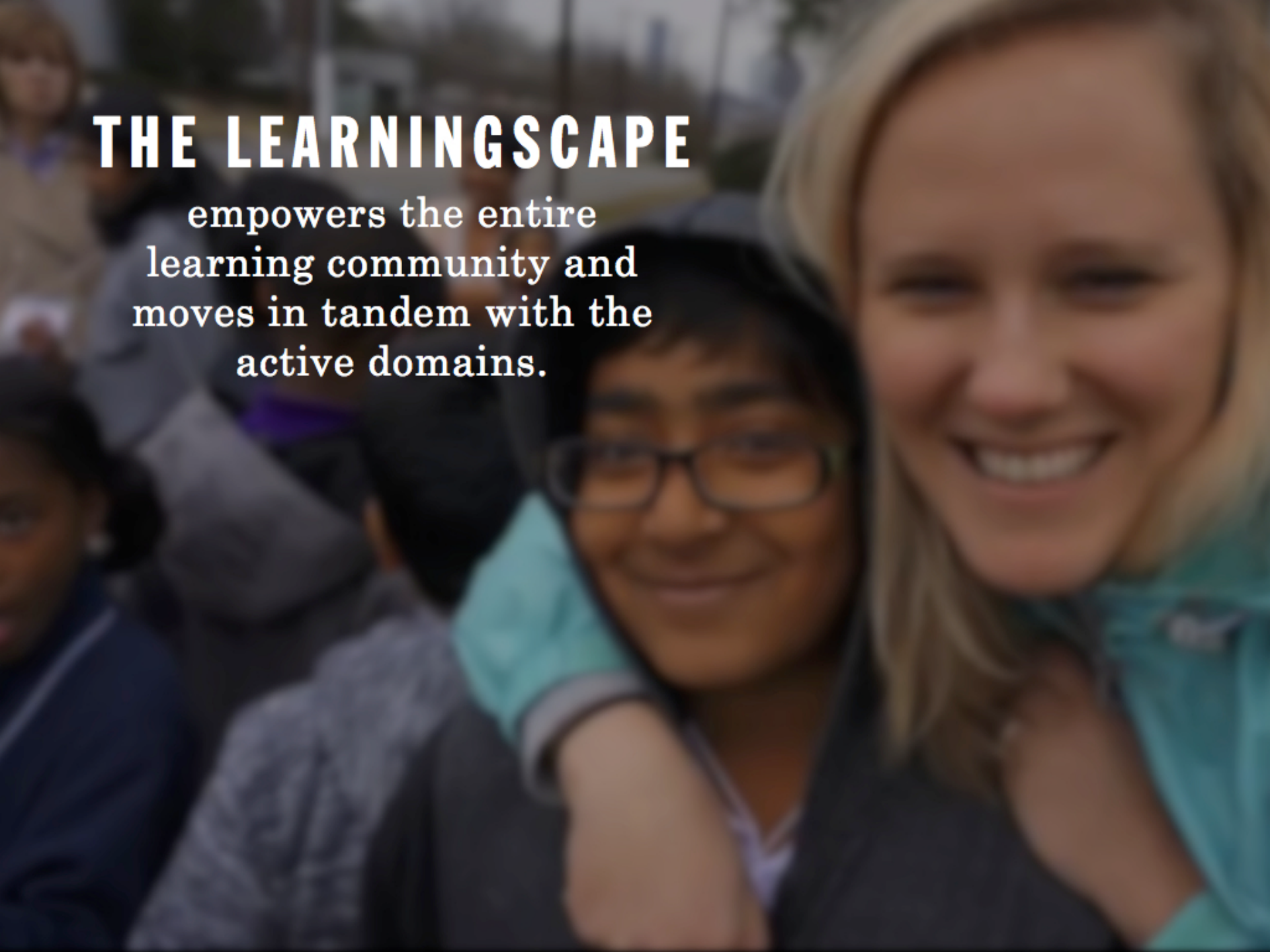
MISSION STATEMENT

At Invest Collegiate, we imagine, we nurture, we value, we engage, we sustain, we transform, as we champion opportunities for leadership and learning – embracing greatness, inspiring achievement within a telescopic environment.



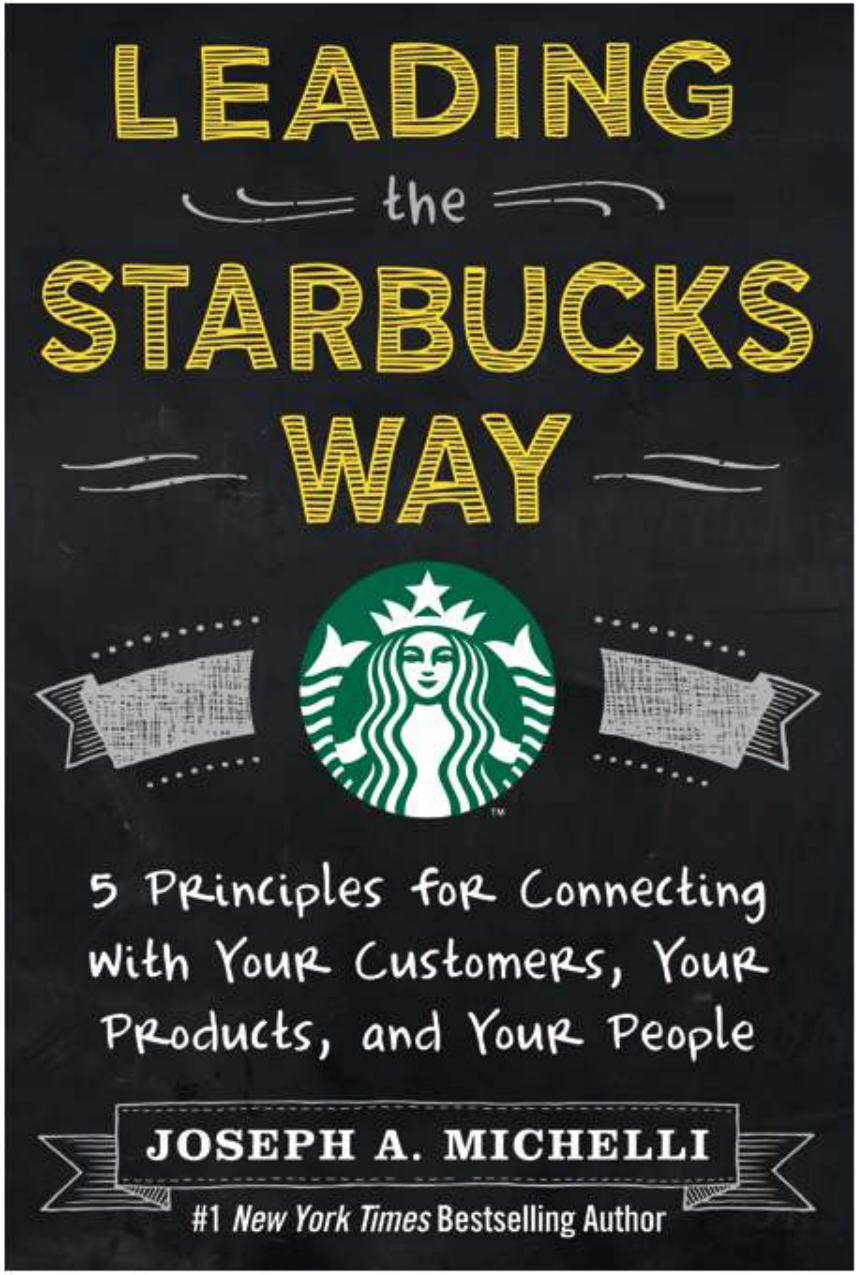
ACTIVE DOMAINS

Imagine, Nurture, Value, Engage, Sustain, and Transform represent our “active domains” and are reflected in the Immersive Learningscape design (think, create, and engage areas/rooms).


THE LEARNINGSCAPE
empowers the entire
learning community and
moves in tandem with the
active domains.

THE PROCESS

of planning the school



3 ESSENTIAL COMPETENCIES TO ARRIVE AT A "WORLD-CLASS" STATUS:

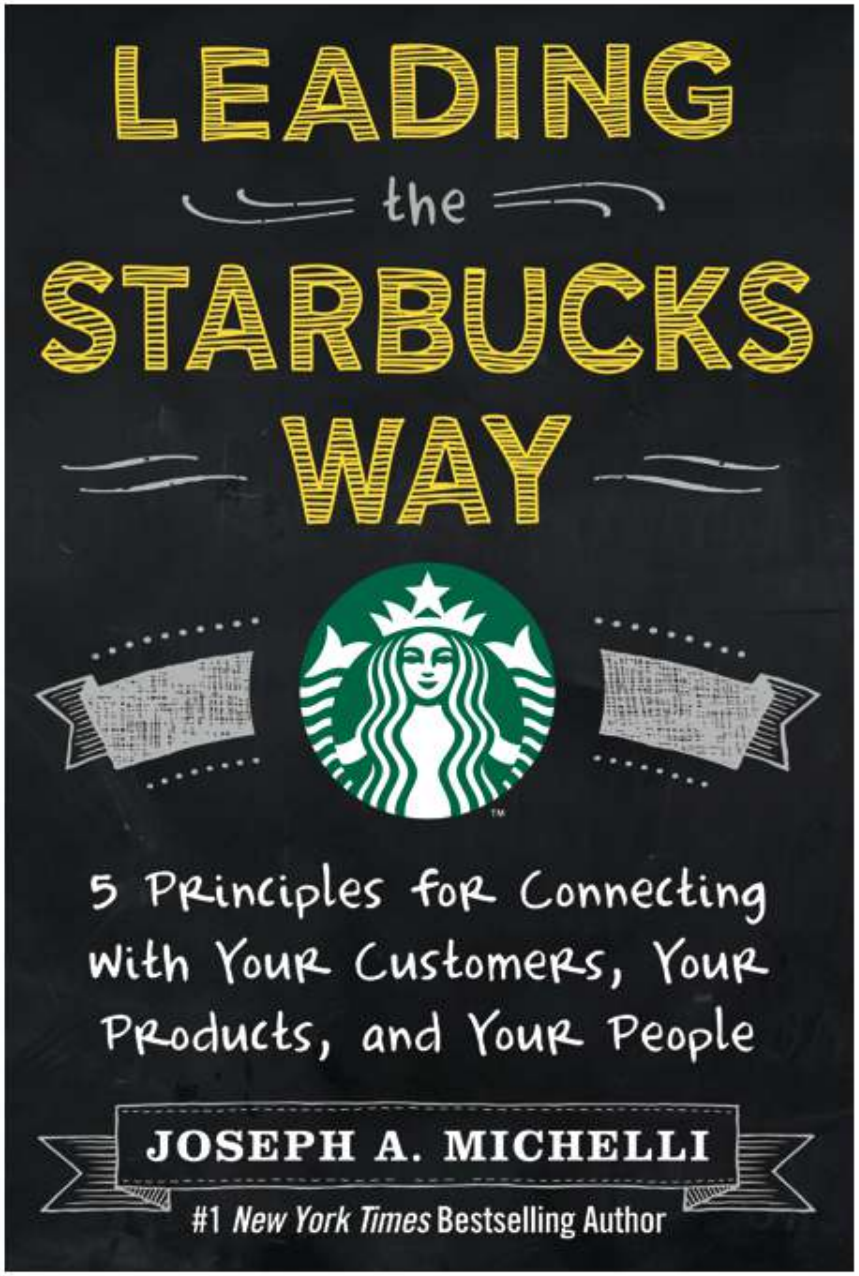
1. The ability to maximize customer engagement through **environmental design**

2. Integration of key **sensory** factors

3. A capacity to **listen and adapt** your offerings to meet the changing wants, desires, and needs of your customers

TRANSFORMATION IS NECESSARY

If we rewrite these key indicators replacing “customer” with “student” we quickly realize the learning environment remains antiquated



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OUR TRANSFORMATION AGENDA

1. Incorporate Invest Collegiate's Mission
2. Use the Learningscape to promote the academic program among the students and the Collegiate Leaders
3. Stay on budget

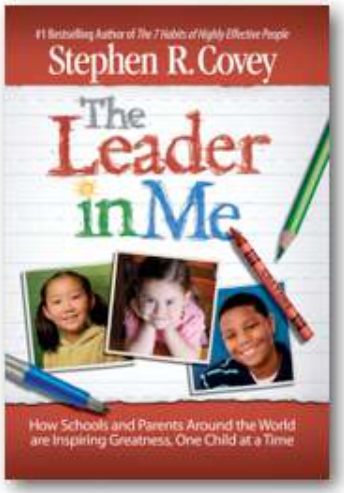
COLLEGIATE LEADER

aspect of the equation

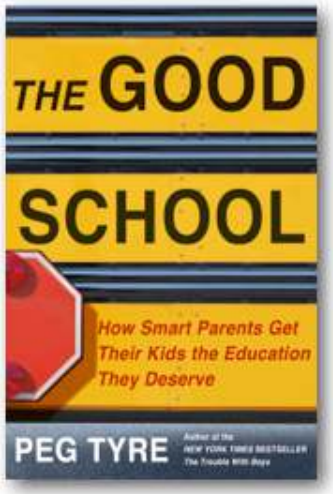
INVEST CONFERENCE

In July, we are hosting the first INVEST Conference for all Collegiate Leaders. A 3-day conference specifically designed to jump-start the academic year by providing intense educational opportunities for those individuals who deliver the mission of the school.

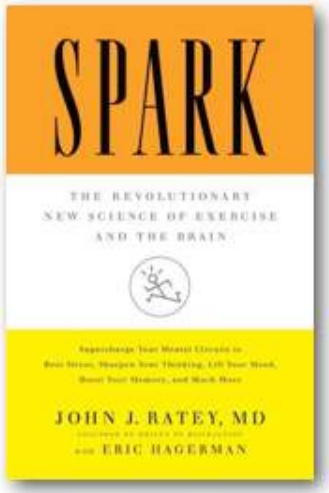
Throughout the year, our professional development reflects the foundational books found in our charter:



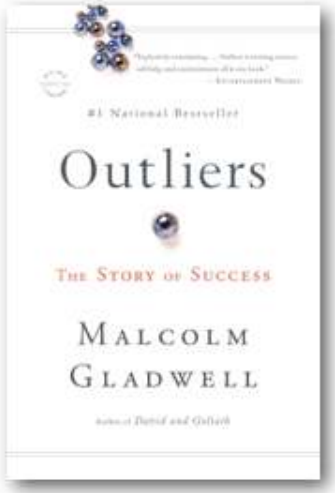
THE LEADER IN ME
Stephen Covey



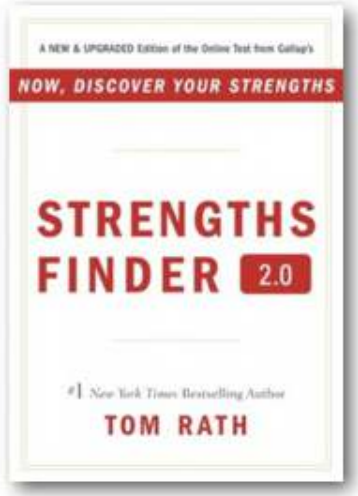
THE GOOD SCHOOL
Peg Tyre



SPARK
John Ratey



OUTLIERS
Malcolm Gladwell



STRENGTHSFINDER
Tom Rath

which all Collegiate Leaders read / discuss / reflect upon

CURRICULUM

+ Immersive Learningscape

INCORPORATING THE IMMERSIVE LEARNINGSCAPE

Our curriculum will not change, however the Immersive Learningscape offers opportunities for 21st century delivery models: create and engage areas + expansive learning spaces.

INVEST

Model of six schools


LEADERSHIP
...brings with it a responsibility to do something of significance that makes families, communities, work organizations, nations, the environment and the world better places than they are today.
A Leader's Legacy,
Kouzes, James and Posner, Barry

THE SITE

BRYANT PARK
LOWER SCHOOL
ARTS
MIDDLE SCHOOL
GYM
PHASE II
HIGH SCHOOL
PHASE II
SUTTLE AVENUE
ISOM STREET
TEMPORARY
SCHOOL
LOCATION
CHARLOTTE SCHOOL OF LAW

FLOOR PLANS

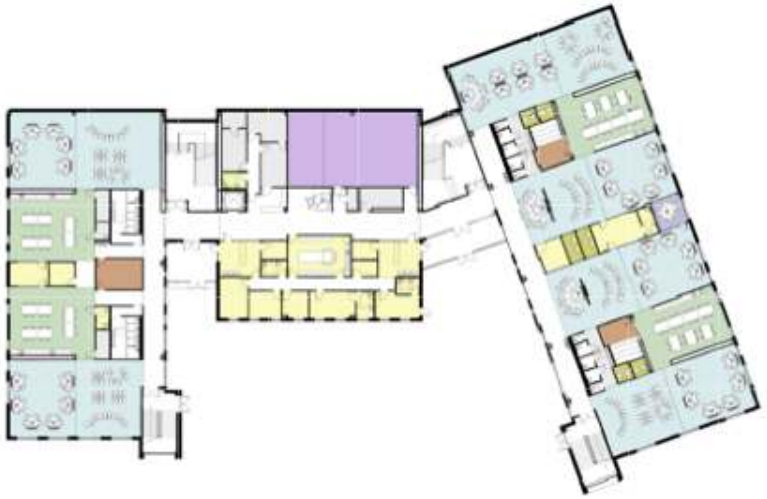
Department Legend

- CREATE
- CREATE ART
- DISCOVER
- EXCHANGE
- IMPART
- TEACHER DISCOVERY
- THINK
- UTILITY

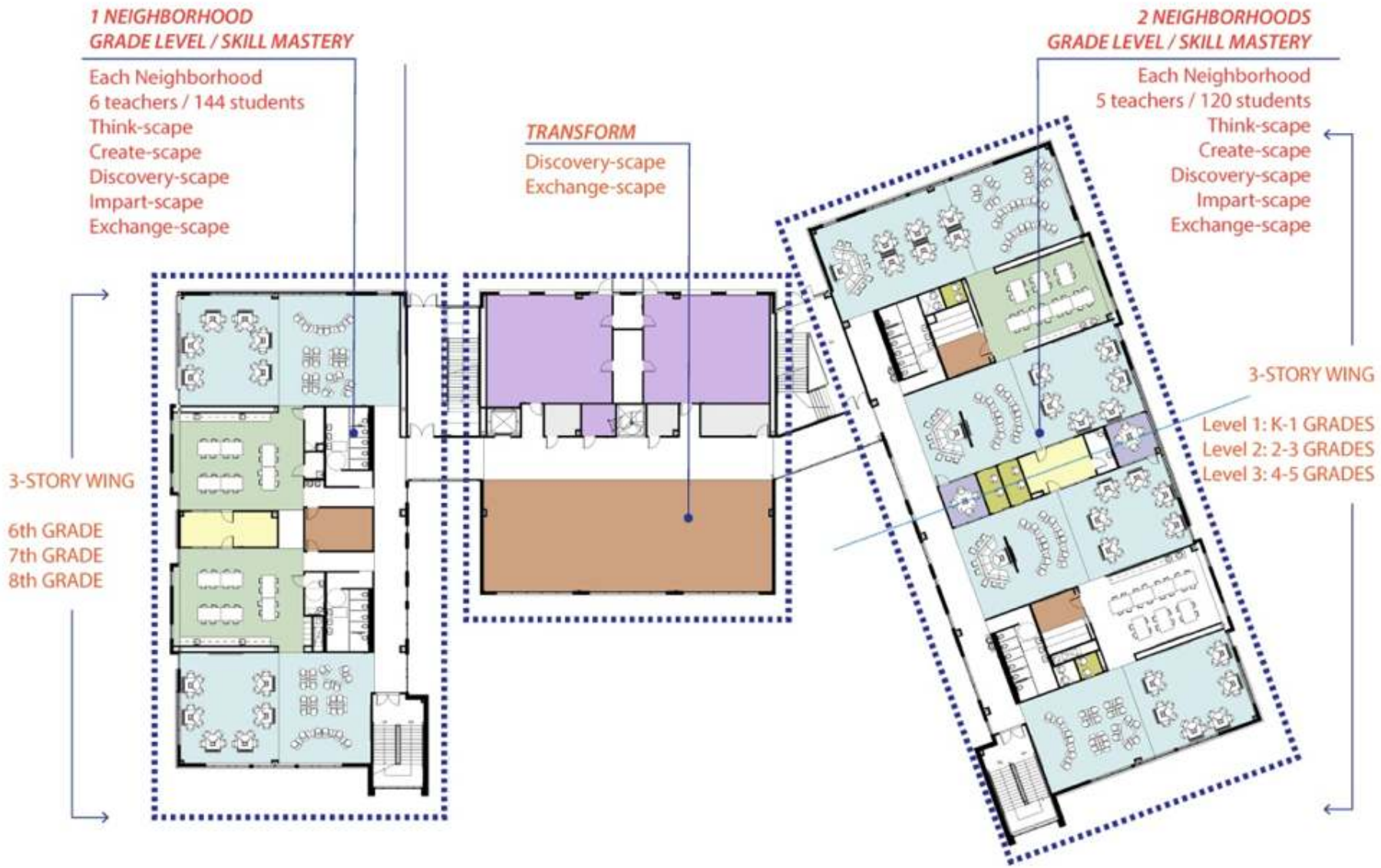
1

2

3



FLOOR DIAGRAMS



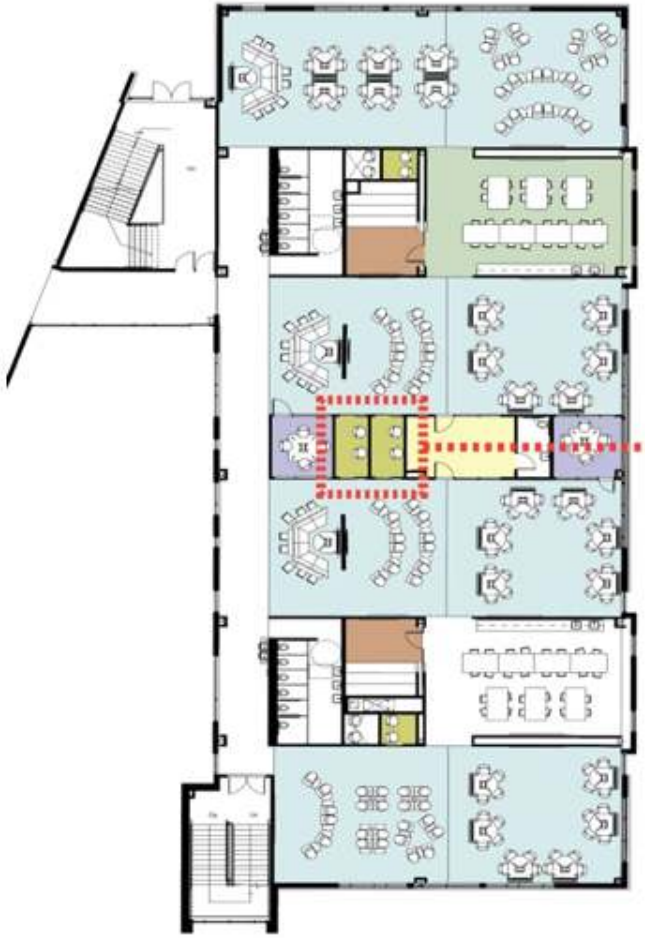
FLOOR DIAGRAMS

NEIGHBORHOOD

5 teachers / 120 students

Think-scape
Create-scape
Discovery-scape
Impart-scape
Exchange-scape

FLOOR DIAGRAMS



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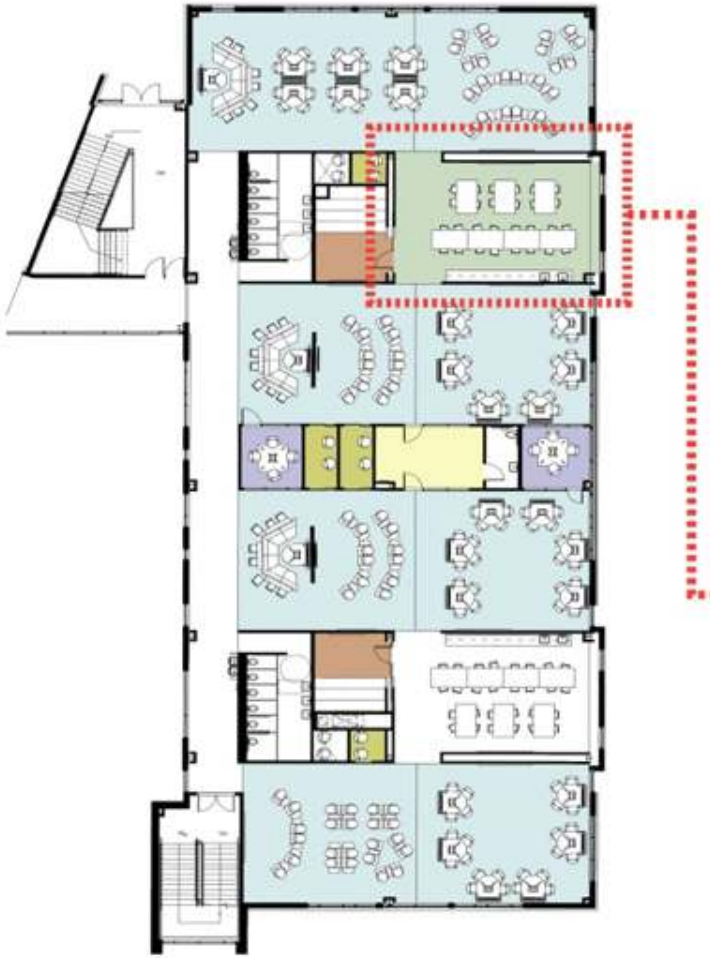

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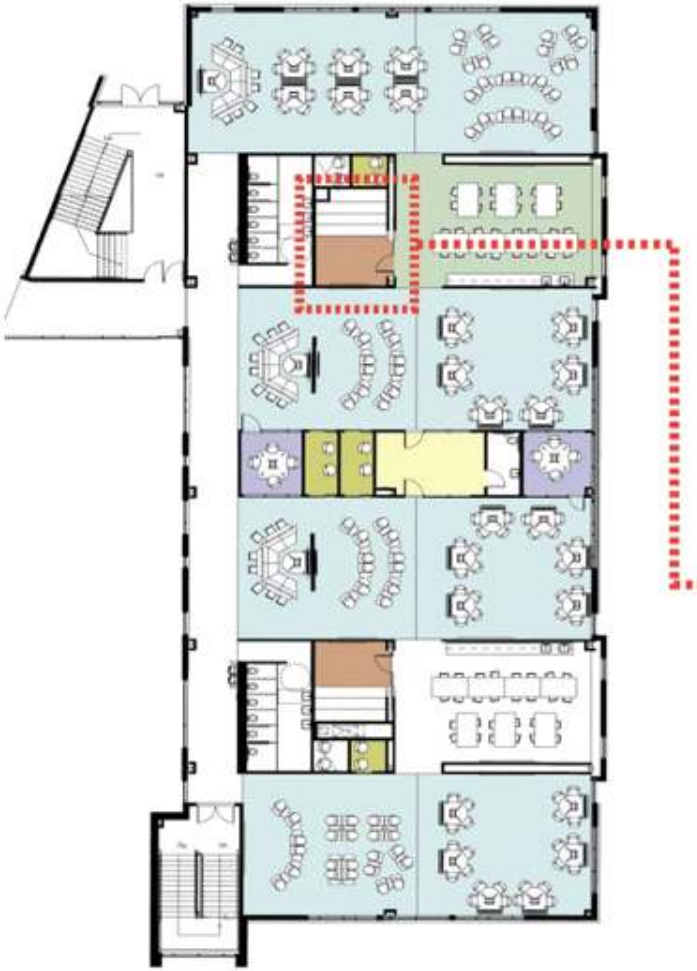

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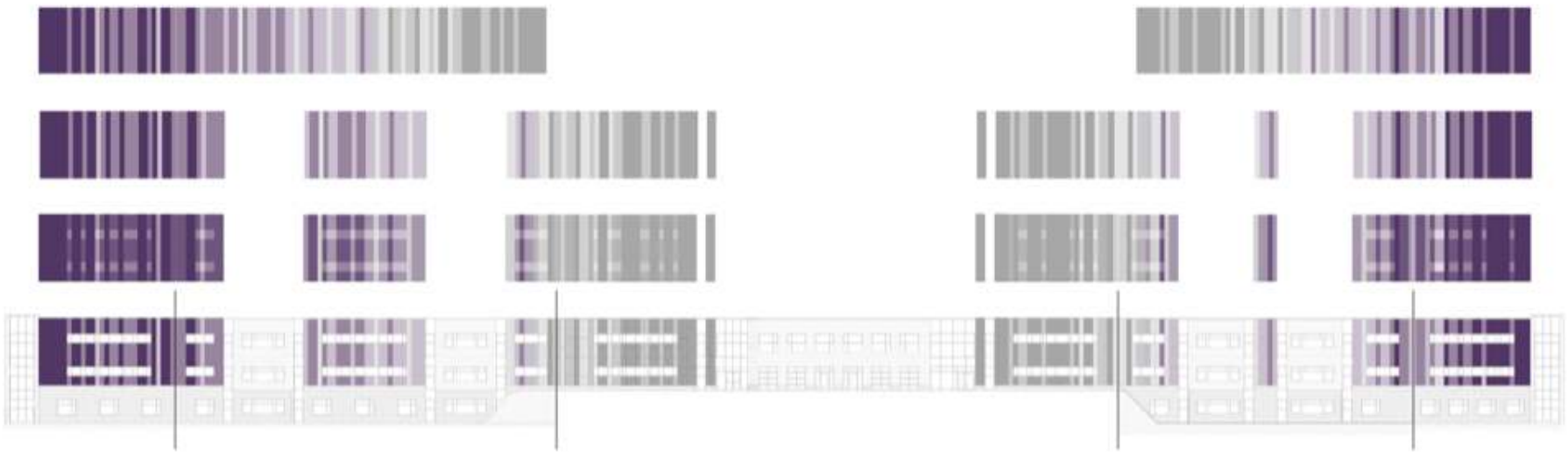
KINDERGARDEN INTERIOR RENDERING

ELEMENTARY INTERIOR RENDERING

MIDDLE SCHOOL INTERIOR RENDERING

EXTERIOR ELEVATION AND ELEVATION SKIN CONCEPT



EXTERIOR RENDERING

EXTERIOR RENDERING

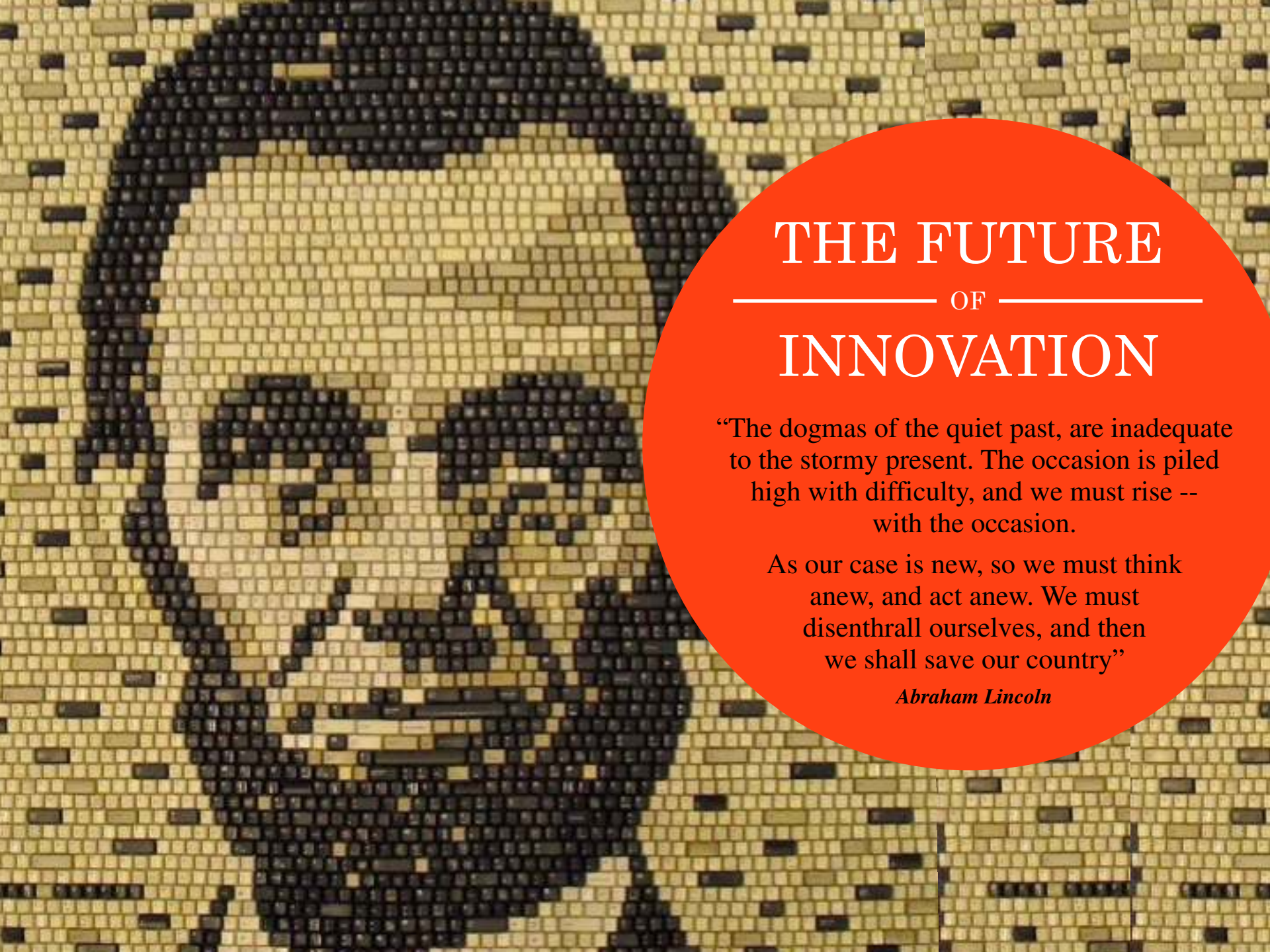
CURRENT STATUS

CURRENT STATUS

CURRENT STATUS

CURRENT STATUS

CURRENT STATUS



THE FUTURE OF INNOVATION

"The dogmas of the quiet past, are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise -- with the occasion.

As our case is new, so we must think anew, and act anew. We must disenthrall ourselves, and then we shall save our country"

Abraham Lincoln

Educate for Disenthrallment

PRESENTED BY

Tomas Jimenez-Eliaeson
Little, Design Director - Learning Environments
teliaeson@littleonline.com

Kate Alice Dunaway
Executive Director - Invest Collegiate Charter Schools
kadunawayic@gmail.com

The

IMMERSIVE LEARNINGSCAPE

A Revolutionary Learning Environment for Innovative Charter Schools

PRESENTED BY

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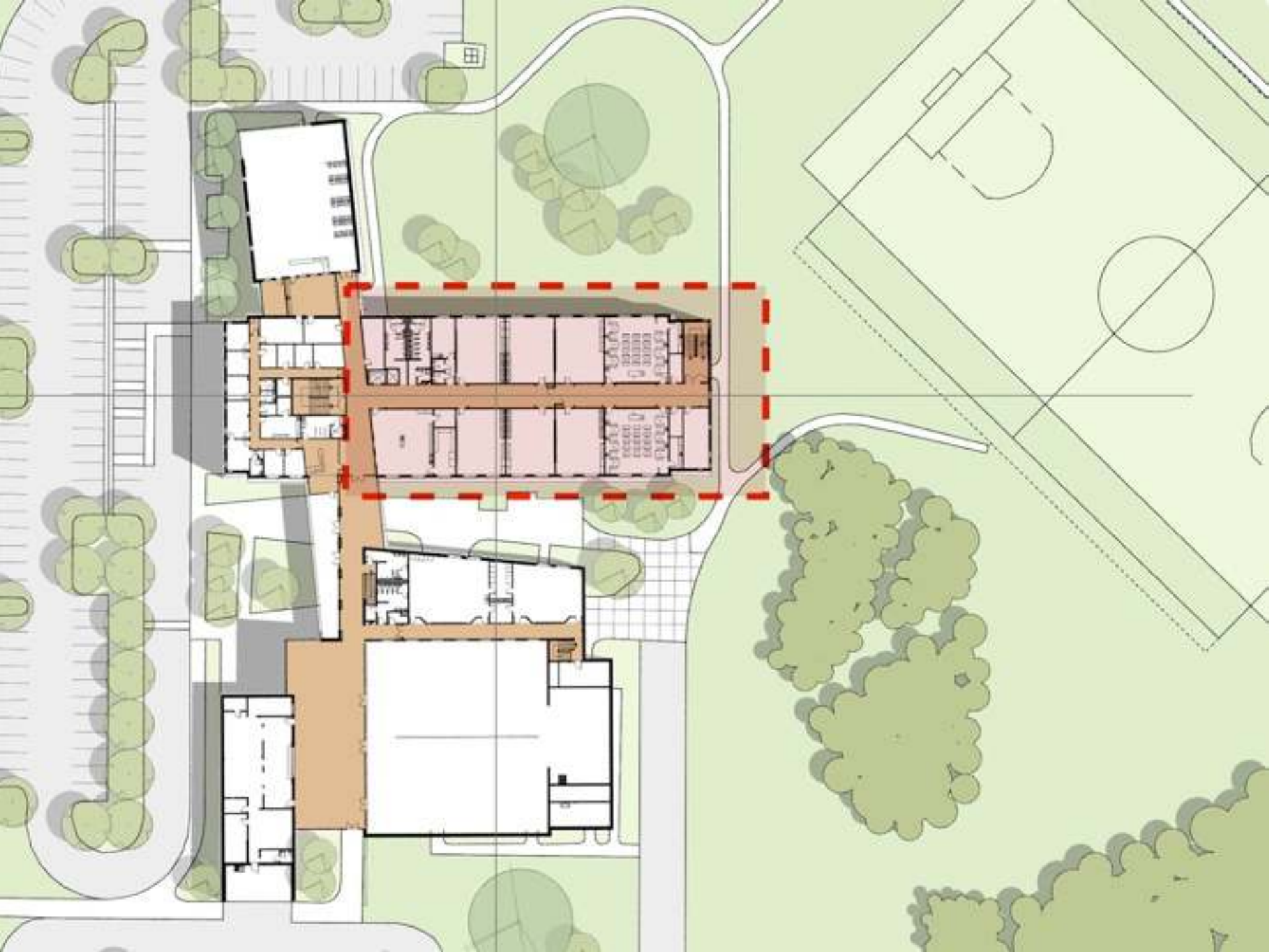
Kate Alice Dunaway, Executive Director - Invest Collegiate Charter Schools
kadunawayic@gmail.com

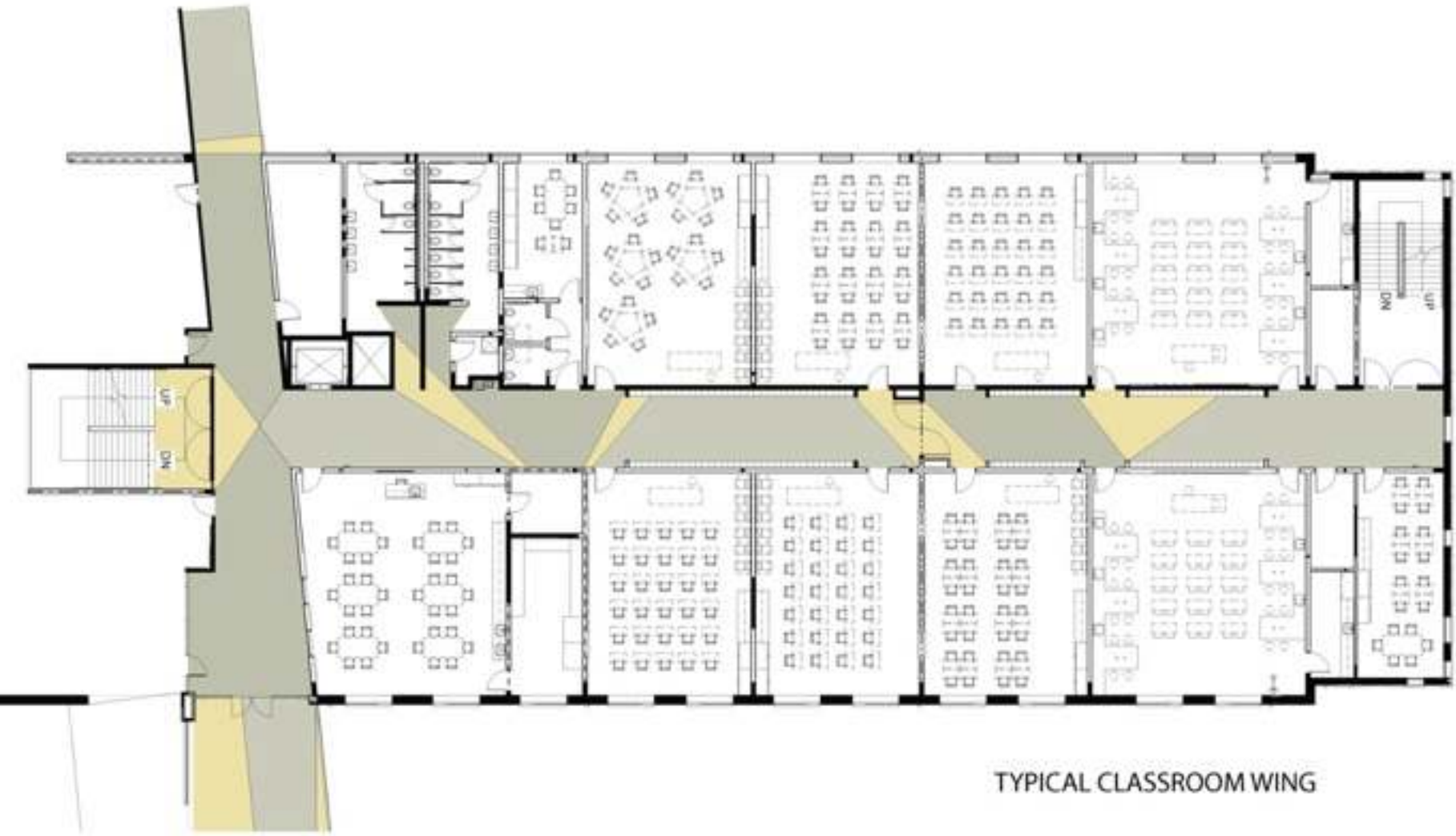
CASE STUDY 2

Re-thinking the knowledge community

IMMERSIVE - MEDIUM SCALE - LOW IMPACT - APPLICABILITY TO ALL SCHOOLS

PILOT MOUNTAIN MIDDLE SCHOOL, Pilot Mountain, NC





TYPICAL CLASSROOM WING

ITEEA Recommendations

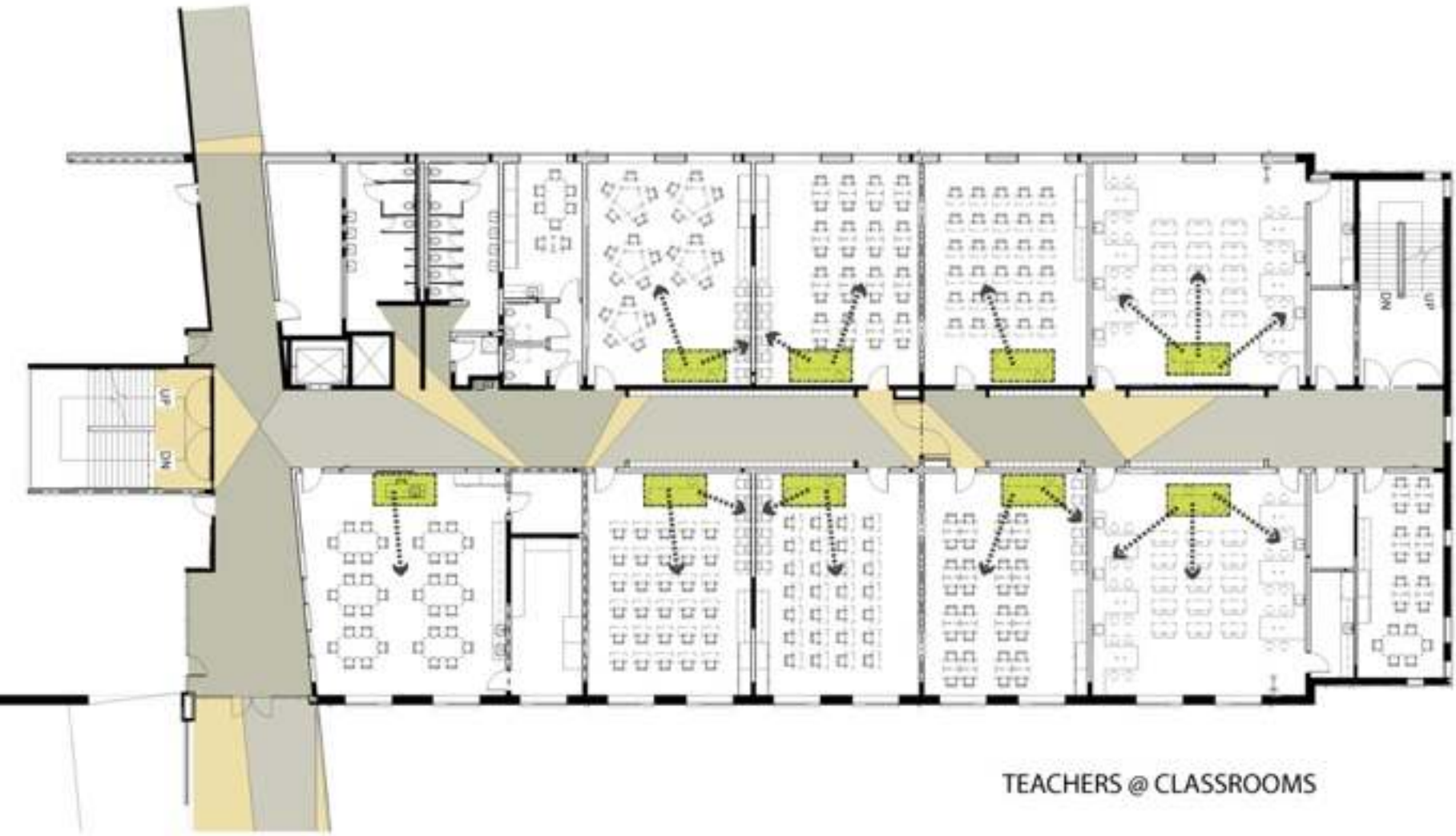
INTERNATIONAL TECHNOLOGY AND ENGINEERING EDUCATORS ASSOCIATION

"The current mainstream school facility models restrict the teaching of science, math, technology and engineering subjects to individual rooms designed around isolated topics/disciplines.

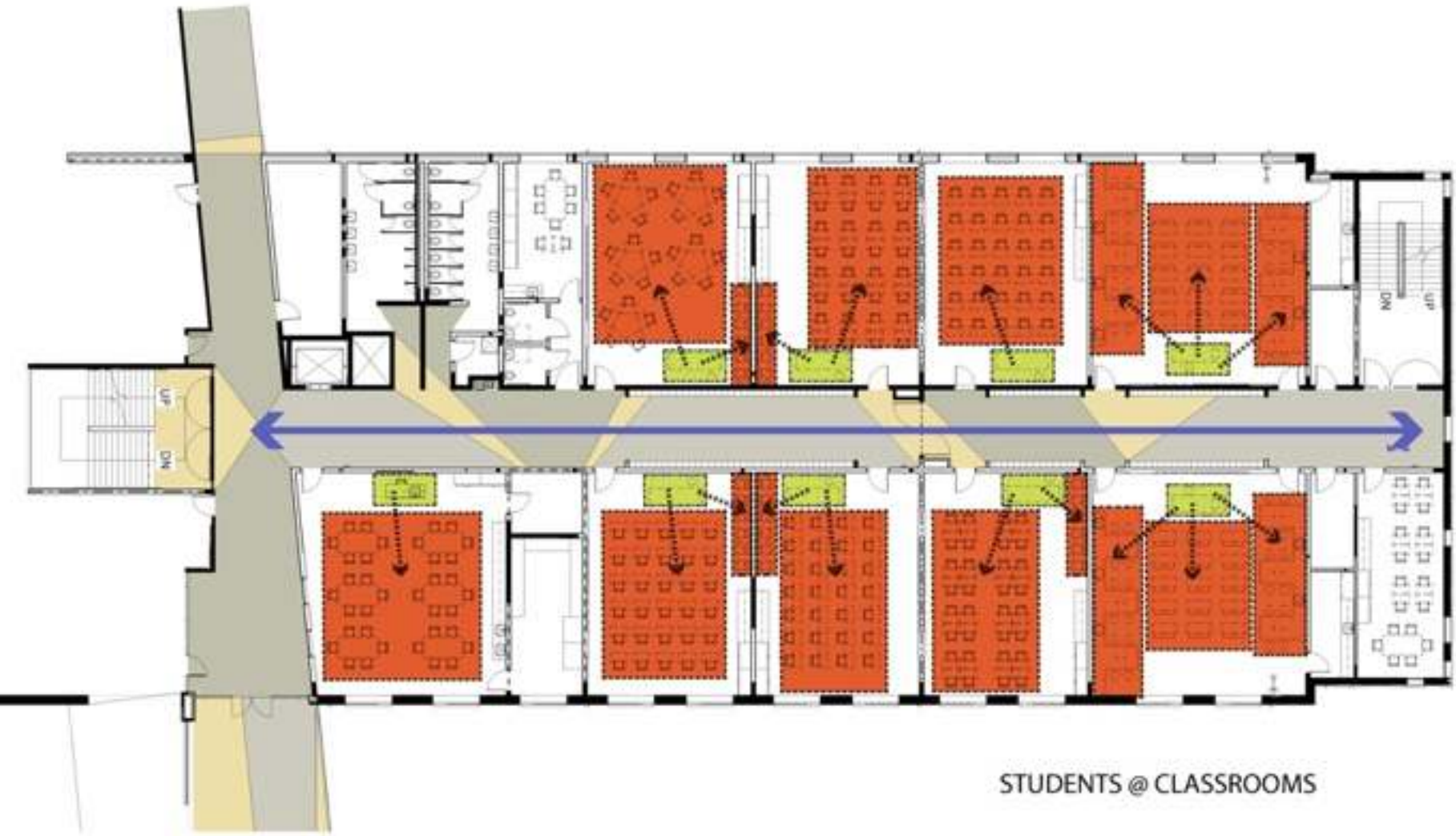
The National Governors Association report– "Innovation America: Building a Science, Technology, Engineering and Math Agenda", pg. 8 further describes it. ***"The existing core curriculum, which is divided into silos and focuses on traditional math and science, is often criticized as being irrelevant and boring to today's students.***

Studies report that the interest levels of American students, especially girls, in science begin to drop around middle school. ***As factors in turning off high numbers of students to STEM disciplines and professions, researchers point to the artificial separation in the curriculum of natural phenomenon into subjects, the focus on natural sciences and lack of attention to the human-made world of engineering and technology, and the disconnect of coursework from the lives of students."***

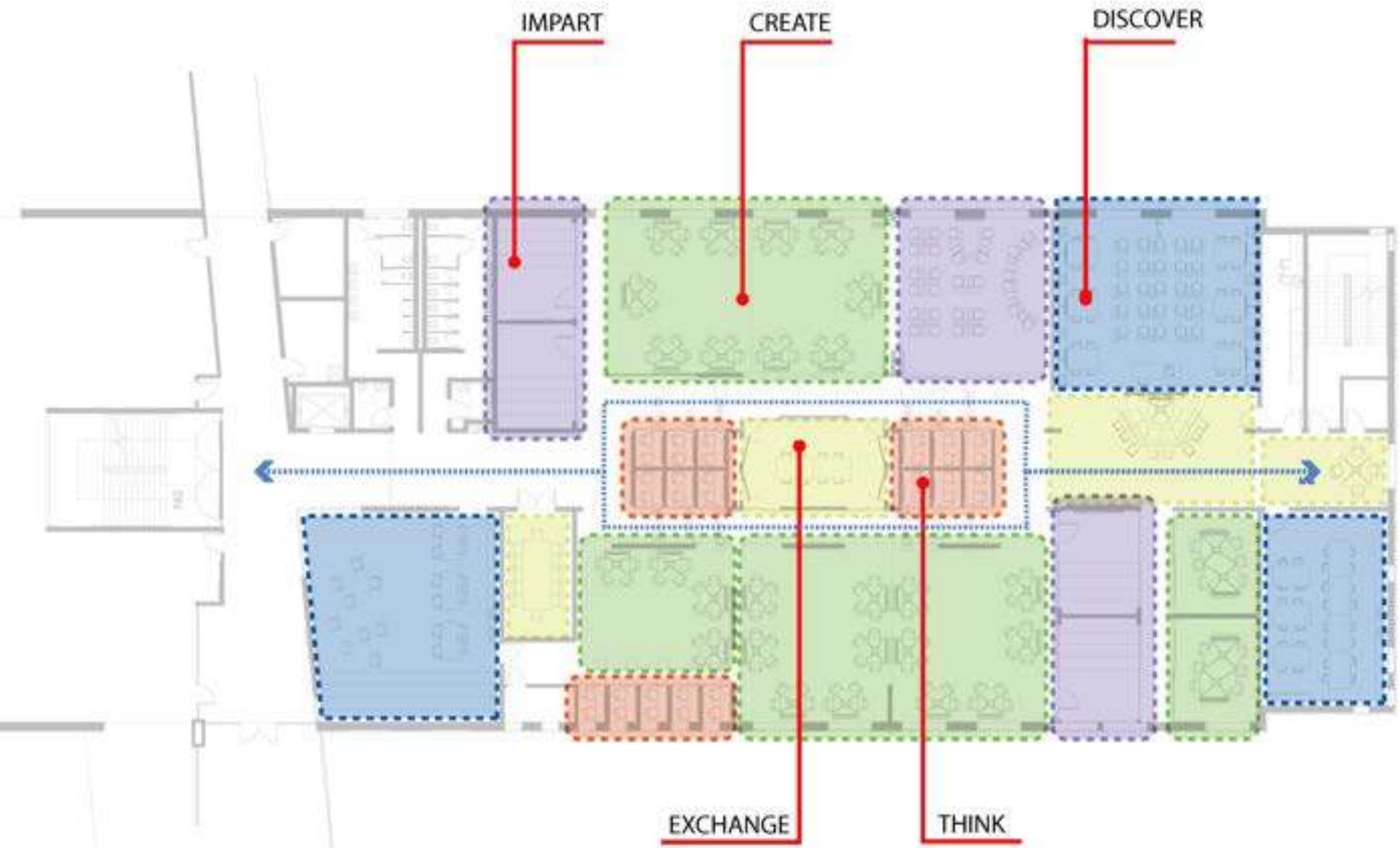
ITEEA (International Technology and Engineering Educators Association) report, a May 3, 2011



TEACHERS @ CLASSROOMS



STUDENTS @ CLASSROOMS


IMPART
CREATE
DISCOVER
EXCHANGE
THINK


DN
CINEMA
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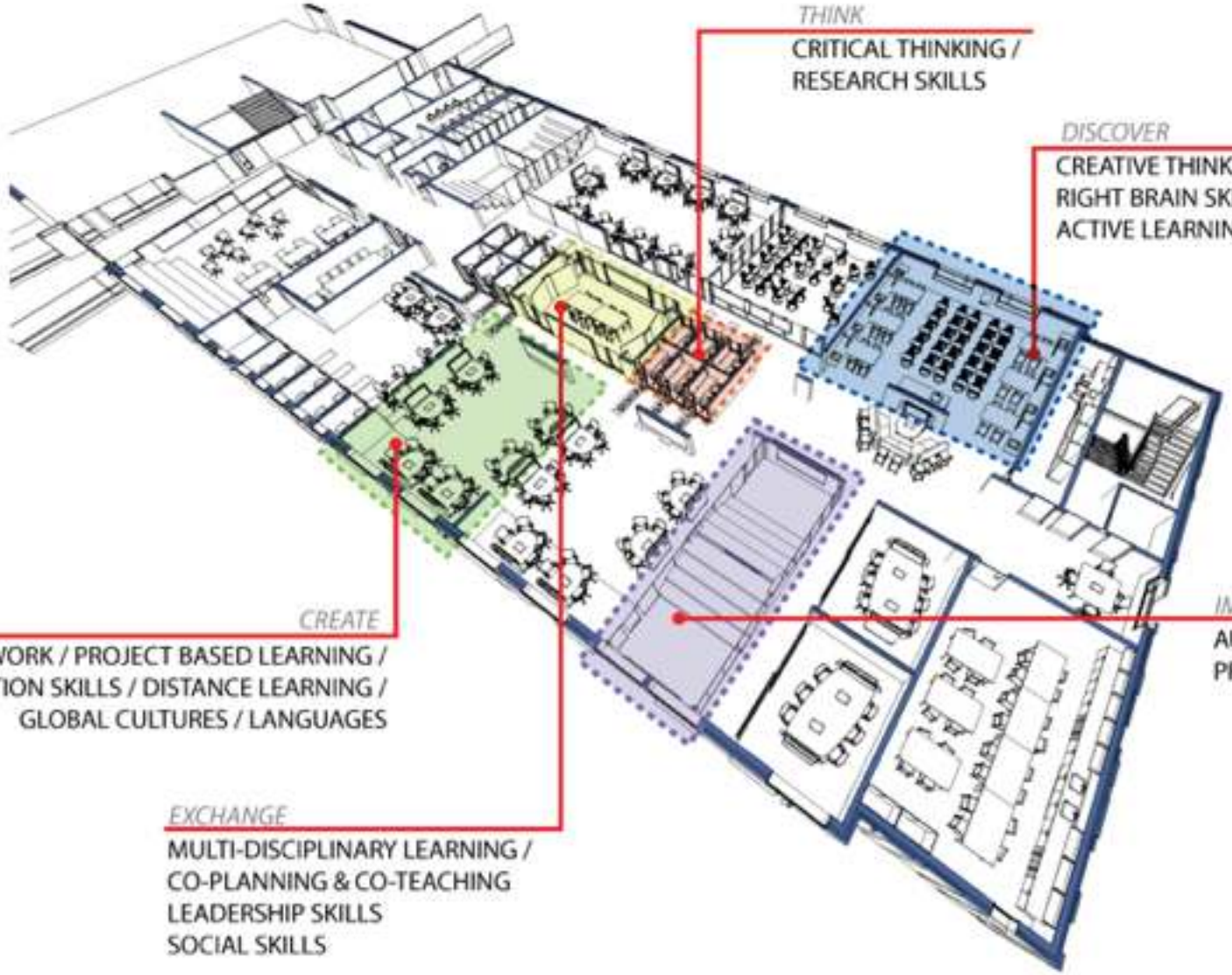
ARK
CREA
PRIAMY

21st CENTURY SKILLS IN THE IMMERSIVE LEARNINGSCAPE



THINK

CRITICAL THINKING /
RESEARCH SKILLS

DISCOVER

CREATIVE THINKING /
RIGHT BRAIN SKILLS
ACTIVE LEARNING

CREATE

TEAMWORK / PROJECT BASED LEARNING /
COMMUNICATION SKILLS / DISTANCE LEARNING /
GLOBAL CULTURES / LANGUAGES

IMPART

AUDITORY SKILLS /
PRESENTATION SKILLS

EXCHANGE

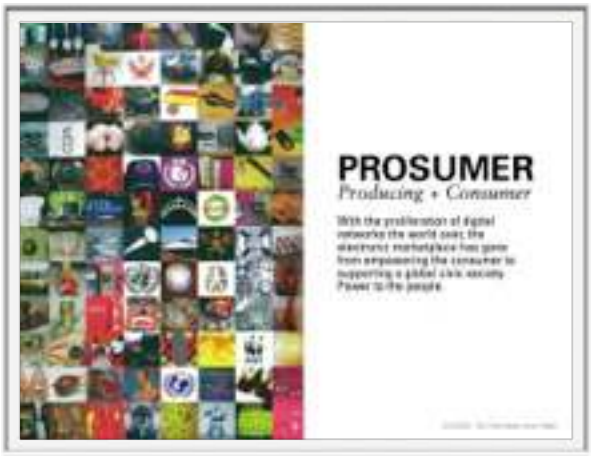
MULTI-DISCIPLINARY LEARNING /
CO-PLANNING & CO-TEACHING
LEADERSHIP SKILLS
SOCIAL SKILLS

Click here for the Immersive LearningScape video

The Immersive LearningScape 1.0 Recap

1 Student Discontent

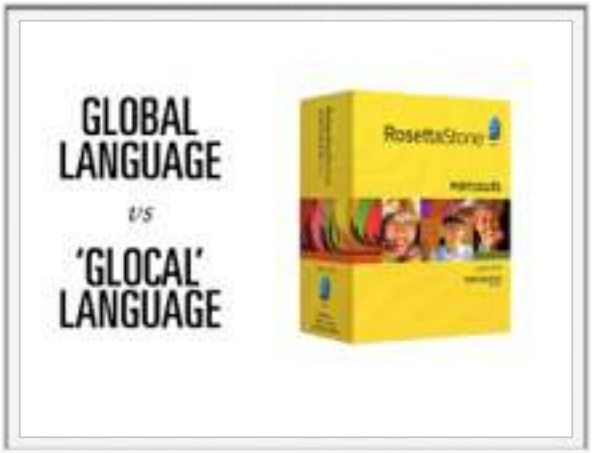
2 Changing Technology



3 Empowered Individuals

4 Teaching Dilemmas

5 A Customizable World



6 Global Equalization

19th

COUNTRIES

vs

COUNTRIES

20th

CORPORATIONS

vs

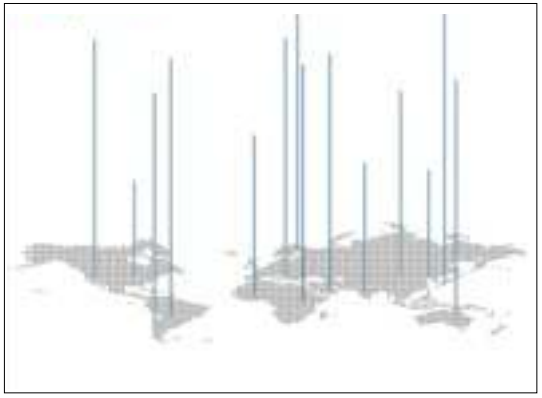
CORPORATIONS

21st

INDIVIDUALS

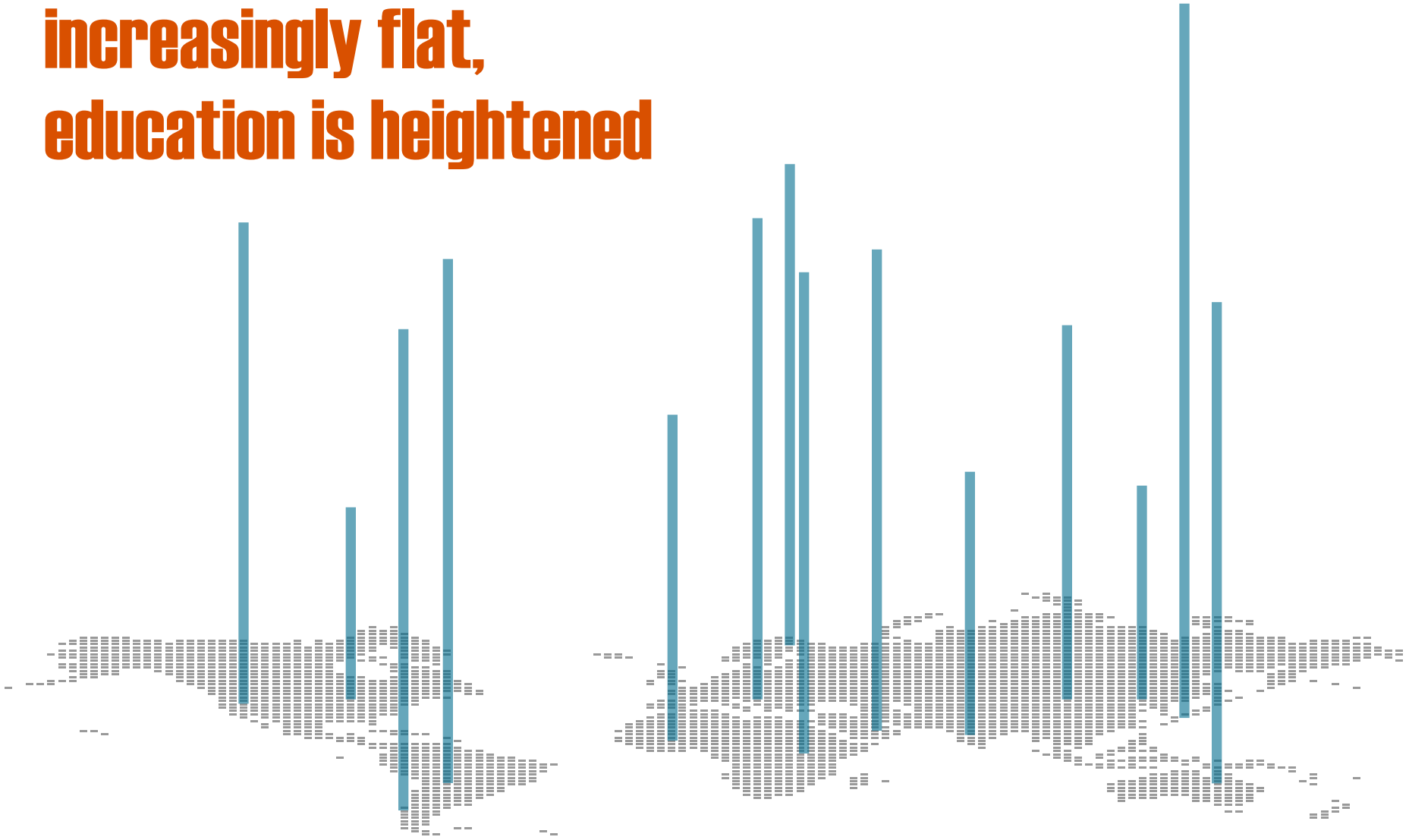
vs

INDIVIDUALS



As the world becomes increasingly flat,

As the world becomes increasingly flat, education is heightened



3M

A CULTURE OF SHARING

55,000 Patents a 1-to-1 ratio to employees

Sharing Among Scientists core tenet of their culture, **15% rule** pursue speculative new ideas and share with the group, **Conceptual Blending**, **Employee Rotation**, **Horizontal Sharing** inventing new products by transplanting same concepts into different domains, **Tech Forum Event** each researcher shares findings with the company

"Flexible Attention Policy" take a walk outside, sit by a sunny window, daydream

Spend 8% of gross revenue on research