



# BRAIN + SPACE + LEARNING

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INTERSECTIONAL LEARNING FOR THE INNOVATION ECONOMY

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**LITTLE**  
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# Brain Space Learning: Empower Learning for the Innovation Economy

TH302

Thursday, April 27, 2017

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Questions related to specific products and services may be addressed at the conclusion of this presentation.



# Speakers List

- Tomas Eliaeson: Partner | Director of Design, Little
- Carolyn Rickard-Brideau: Partner | Global Practice Leader - Workplace, Little

# Course / Learning Objectives

- Recognize our new reality: We will send kids into an exponentially more creative, innovative, and collaborative economy.
- Understand the scientific basis of salutogenic design (the concepts behind the WELL Building Standard).
- Design a comfortable and optimal learning environment based on the principles of neuroscience, wellness, and twenty-first century learning.
- See how Invest Collegiate has addressed critical learning challenges.



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# LEARNING OBJECTIVES

## 1. LEARNING FOR TOMORROW

*Learning for the Innovation Economy*

## 2. NEUROSCIENCE OF LEARNING

*Learning with the Brain in Mind*

## 3. WELLNESS AND LEARNING

*Effective and Optimal Learning*

## 4. IMMERSIVE LEARNINGSCAPE

*Bringing it all together*

## **POLL:**

*Outside of curriculum, in your opinion  
which of the following has the biggest*

**IMPACT ON STUDENT  
SUCCESS?**

## POLL:

*In your opinion, are our schools adequately  
preparing students to succeed*

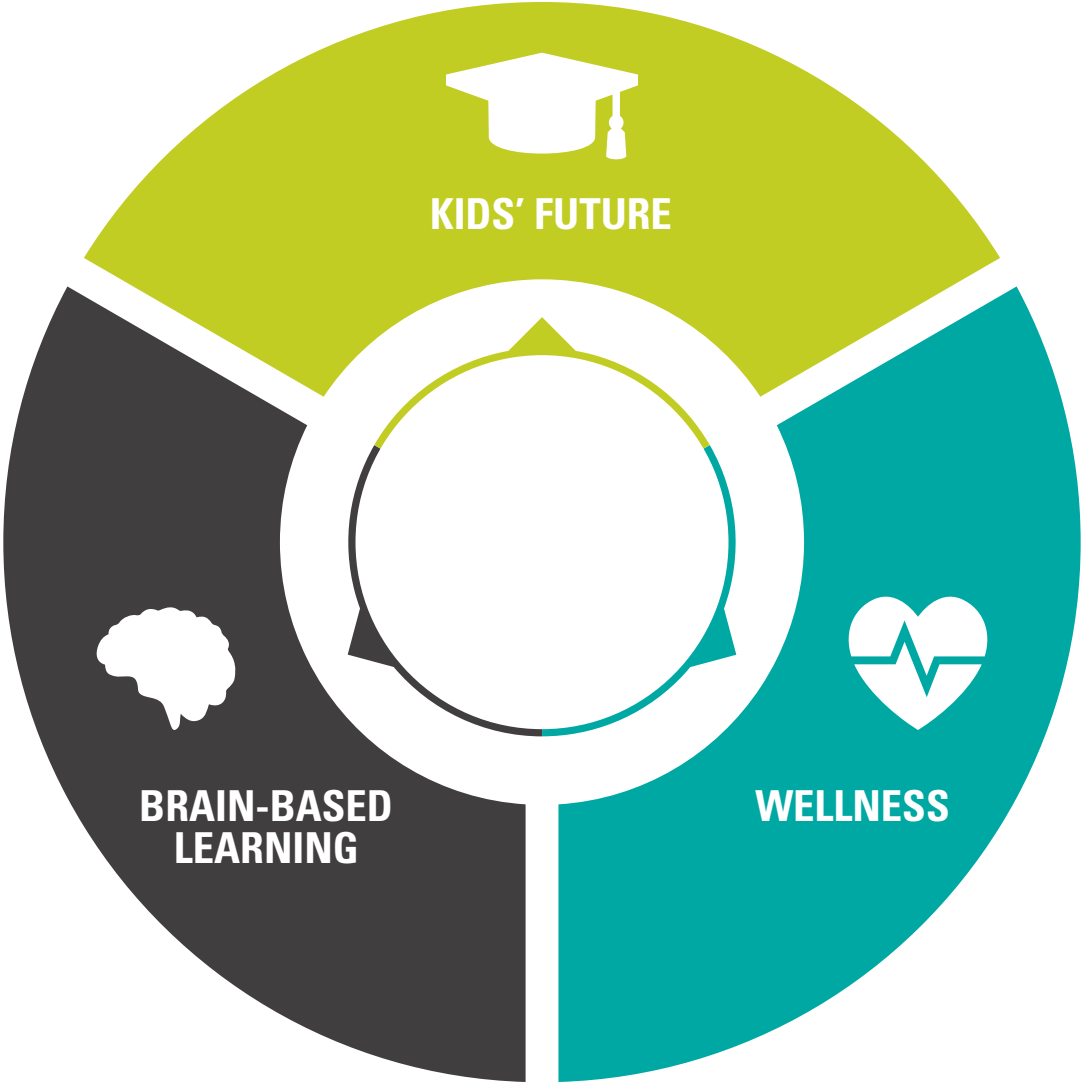
**IN AN INNOVATION  
ECONOMY?**

**POLL:**

*Finish this statement:*

**TODAY, MOST LEARNING  
ENVIRONMENTS ARE  
DESIGNED FOR\_\_\_\_\_.**

**LEARNING WITH THE BRAIN & BODY IN MIND**







# LEARNING FOR TOMORROW

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LEARNING FOR THE INNOVATION ECONOMY

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# Invent.

To learn more please visit



LOS ANGELES  
INNOVATION WEEK(S)  
OCT. 2-22, 2015

INNOVATE.LA

#LAIW2015

## INNOVATION

AND

## CHANGE

*Innovation is the  
driver of today's  
World*

75th ANNIVERSARY ISSUE  
The McGraw-Hill Companies  
**BusinessWeek**  
OCTOBER 11, 2015

THE  
**INNOVATION  
ECONOMY**

SPECIAL REPORT The technologies and  
new ideas that are changing the world



PLUS  
Voices of  
Innovation

STEVE JOBS CHAIRS NEWTON  
THE BERNARDINI-LES SHIRLEY ANN  
JACKSON WILLIAM LONGPOND  
CHERRY HARRISLEY JEFF HARRISLEY  
ROBERT MUMFORD ENZO ANGILERI  
NICKEL JACQUET LONDON & SHORE

HBR.ORG  
**Harvard  
Business  
Review**

JUNE 2015  
50 The Big Idea  
A Guide to Making  
Great Strategic Decisions  
Daniel Kahneman, Dan Lovallo,  
and Olivier Sibony  
42 Spotlight  
How Intuit Rewrote  
The Rules on Innovation  
Roger L. Martin  
124 Marketing  
Competing Against "Free"  
David J. Byrne, Jeffrey H. Dyer,  
and Mike W. Martin



How Great  
Leaders  
Unleash  
**Innovation**

29 REASONS  
GOOGLE IS NO. 1  
THE TESLA GUIDE  
TO TALKING SMACK  
WHAT TFL CAN  
TEACH UBER  
THE RAP ON  
TWITTER  
APPLE'S SOFT TOUCH VS.  
AMAZON'S HARD SELL

**FAST COMPANY**

THE  
WORLD'S  
**50**  
MOST  
INNOVATIVE  
COMPANIES



NO. 9  
DORRISCHROSE:  
Wesley  
Cullen, CEO of  
Santitas, and  
Katie Kohn  
CEO of Kohn

100 MOST PREDICTING COMPANIES • HOW TECH DRIVES FORTUNE  
**Forbes**



**INNOVATION  
SAVES THE  
WORLD**

LITTLE

the most innovative companies are  
**GROWING SIGNIFICANTLY FASTER**  
than the least innovative



*20% most  
innovative companies*  
(11.3% year-on-year)



*20% least  
innovative companies*  
(3.2% year-on-year)

The background is a solid teal color. Overlaid on this is a network diagram consisting of dark teal circles connected by thin, light teal lines. Each circle contains the name of an academic discipline in a light teal, sans-serif font. The disciplines include: Law, Geography, Psychology, Physics, Architecture, Sociology, History, Linguistics, Biology, Mathematics, Poetry, Art History, Chemistry, and Literature. The central text 'WORKPLACE TODAY' is in white, with 'WORKPLACE' in a smaller font and 'TODAY' in a larger, bold font.

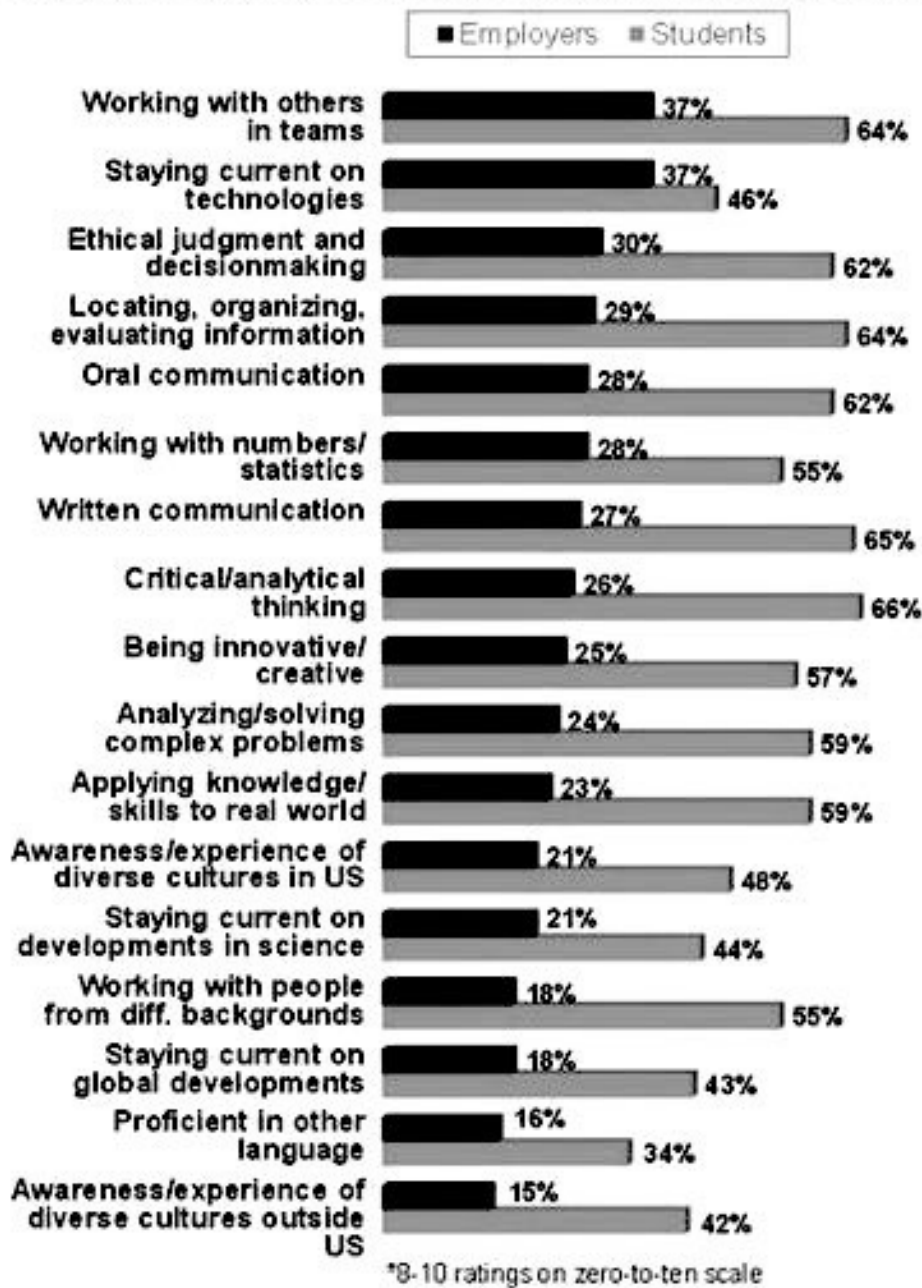
# WORKPLACE **TODAY**



**POLL:**

*What skill do you wish we were*

**TEACHING MORE OF  
IN SCHOOLS TODAY?**



**READY FOR WORK?**

***Employers** give college graduates low scores on preparedness across learning outcomes*

***Students** think they are better prepared*

## Future Work Skills 2020

While all six drivers are important in shaping the landscape in which each skill emerges, the color-coding and placement here indicate which drivers have particular relevance to the development of each of the skills.

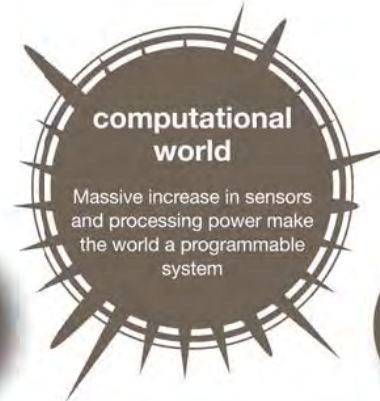
### KEY



Drivers—disruptive shifts that will reshape the workforce landscape



Key skill needed in the future workforce





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LIVING IN A

---

# VUCA

## **VOLATILITY**

rate of change

## **UNCERTAINTY**

unclear about present  
situations and future  
outcomes

## **COMPLEXITY**

multiplicity of key  
decision factors

## **AMBIGUITY**

lack of clarity about  
the meaning of an  
event

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WORLD

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Psychology Law Geography Architecture  
Physics  
Literature History  
Sociology Linguistics  
Biology Anthropology  
Mathematics  
Art History Chemistry Poetry

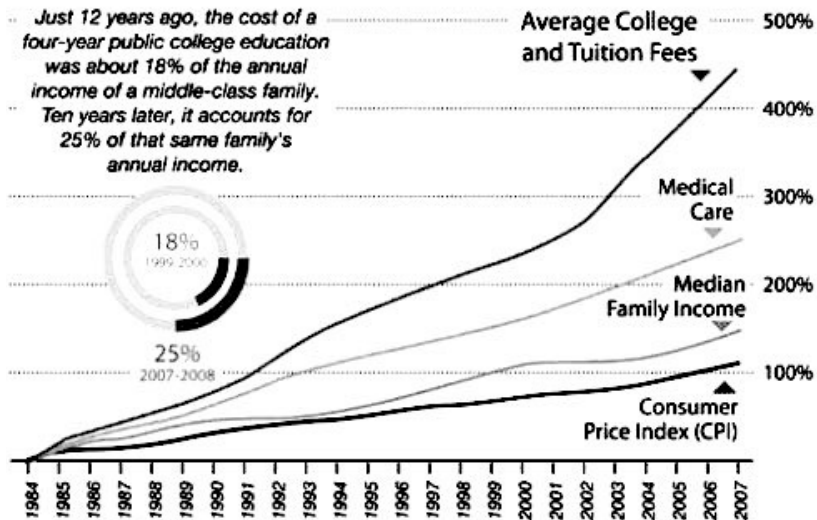
# HIGHER ED **TODAY**

## COLLEGE GRADUATION RATES

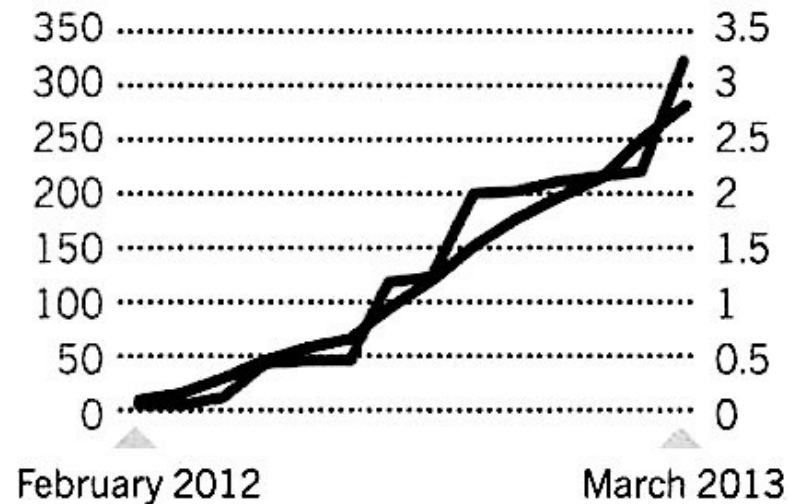


*4 out of 10 graduate in 4 years*

## COST OF COLLEGE

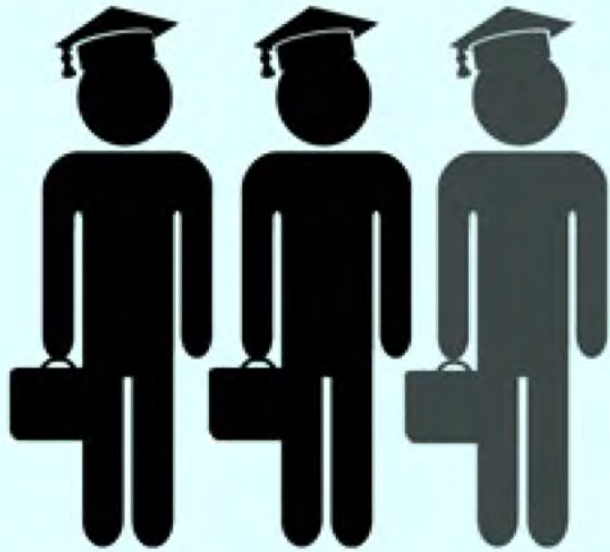


## RISE OF MASSIVE OPEN ONLINE COURSES



## RECENT GRADUATES

**1** in **3** college-educated workers do not work in occupations related to their college major.



Nearly half (**47 percent**) of college educated workers reported their first job out of college was not related to their major.



**32%**

of college-educated workers report they have **never** found a job related to their college major. Among workers age 35 or older, 31 percent report never finding a job in their field.

**Sources:** [www.careerbuilder.com/](http://www.careerbuilder.com/)

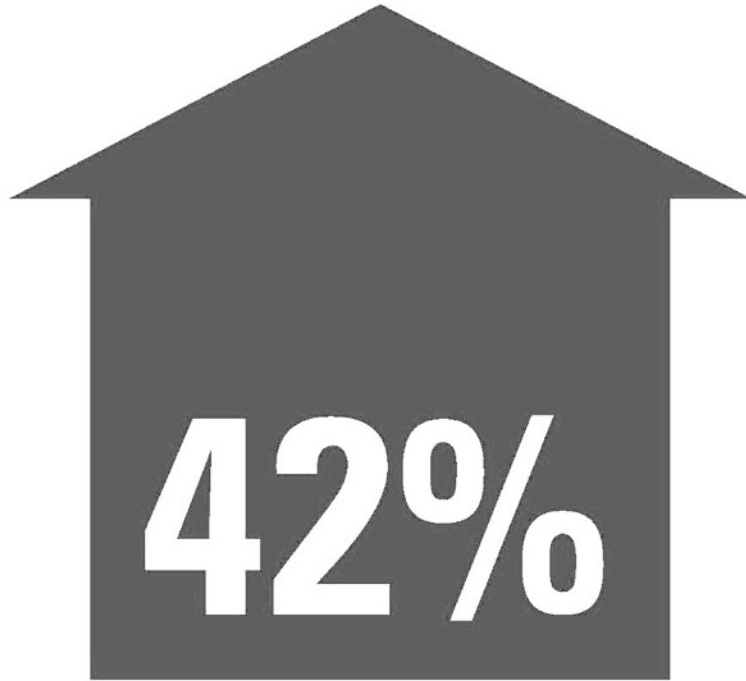


## BEYOND THE 'BUZZ'

"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."

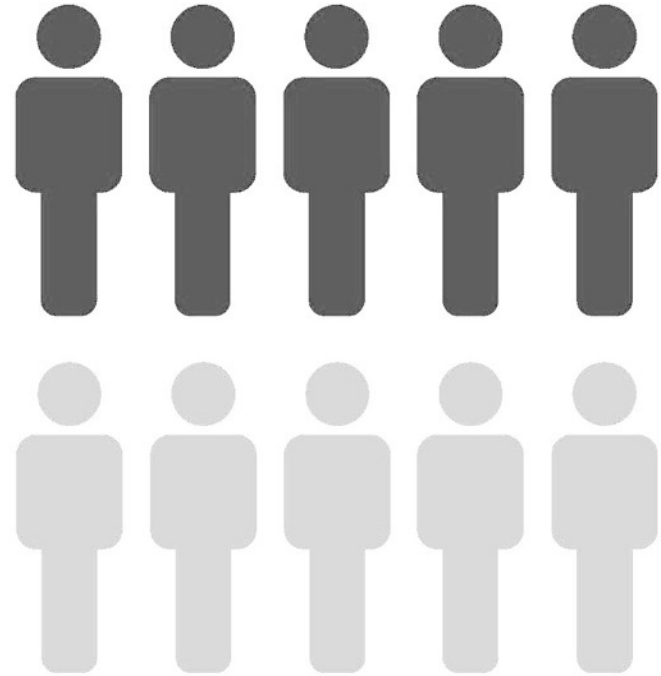
- ALVIN TOFFLER

## TREND: THE GROWTH OF INTERDISCIPLINARY MAJORS



Increase in schools  
offering university-created  
interdisciplinary degrees

\*College Board's "Annual Survey of Colleges"



At Olin College, nearly half of  
the students create their own  
interdisciplinary majors



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# THE GROWTH OF INTERDISCIPLINARY MAJORS

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- |                     |                            |
|---------------------|----------------------------|
| 1. Ecosystems       | 9. Geo-Matics              |
| 2. Nanotechnology   | 10. Carbon Negative Design |
| 3. Mechatronics     | 11. Integrated Engineering |
| 4. Bio-systems      | 12. Integrated Science     |
| 5. Neuro-Experience | 13. Bio-Infomatics         |
| 6. Bio-Chemical     | 14. Manufacturing Systems  |
| 7. Bio-Medical      | 15. Computational Biology  |
| 8. Geo-Genetics     |                            |

THE RISE OF 'CREATE YOUR OWN MAJOR'

ETHNOMUSICOLOGY

ENVIRONMENTAL RACISM

ECOLOGY OF WELLNESS

BIOETHICS IN CROSS-CULTURAL PERSPECTIVES

ETHOLOGY

PEACE AND CONFLICT RESOLUTION

ANTHROPOLOGY OF MENTAL ILLNESS

SOCIOLOGY OF FASHION

ETHNOBOTANY



Psychology Law Geography Architecture  
Physics  
Sociology History Linguistics  
Biology Art History Chemistry Mathematics Poetry

# KNOWLEDGE **TODAY**



## **POLL:**

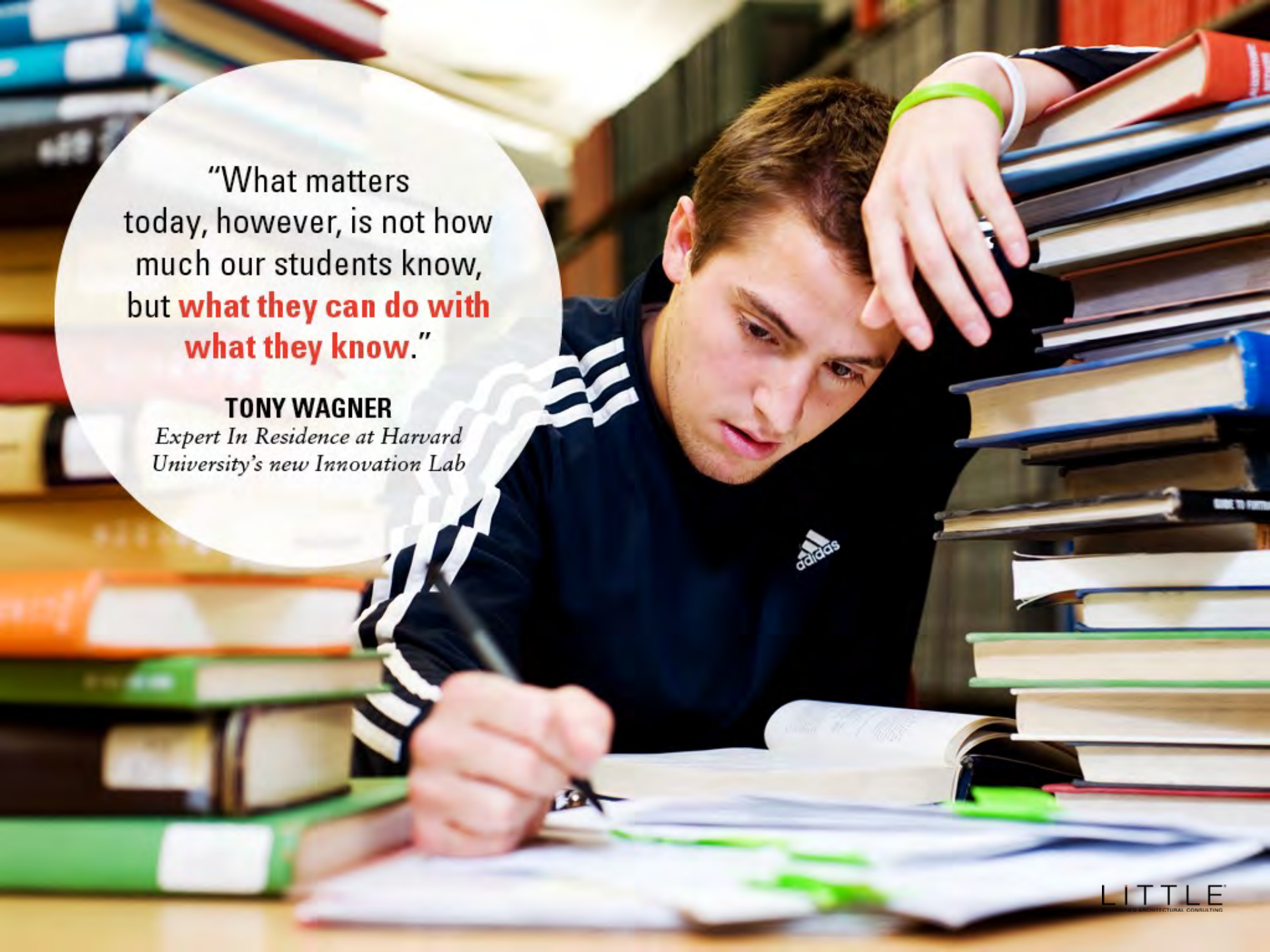
*What changes would you propose to our  
current education model*

# **TO IMPROVE IT?**



The background features a network diagram consisting of teal-colored circles of varying sizes, interconnected by thin teal lines. Each circle contains a word representing an academic discipline. The words are: Psychology, Law, Geography, Physics, Architecture, Sociology, Literature, History, Linguistics, Biology, Anthropology, Mathematics, Poetry, Chemistry, and Art History. The central text 'LESS CONTENT MORE INQUIRY' is overlaid on this network.

# LESS CONTENT MORE INQUIRY



"What matters today, however, is not how much our students know, but **what they can do with what they know.**"

**TONY WAGNER**

*Expert In Residence at Harvard University's new Innovation Lab*

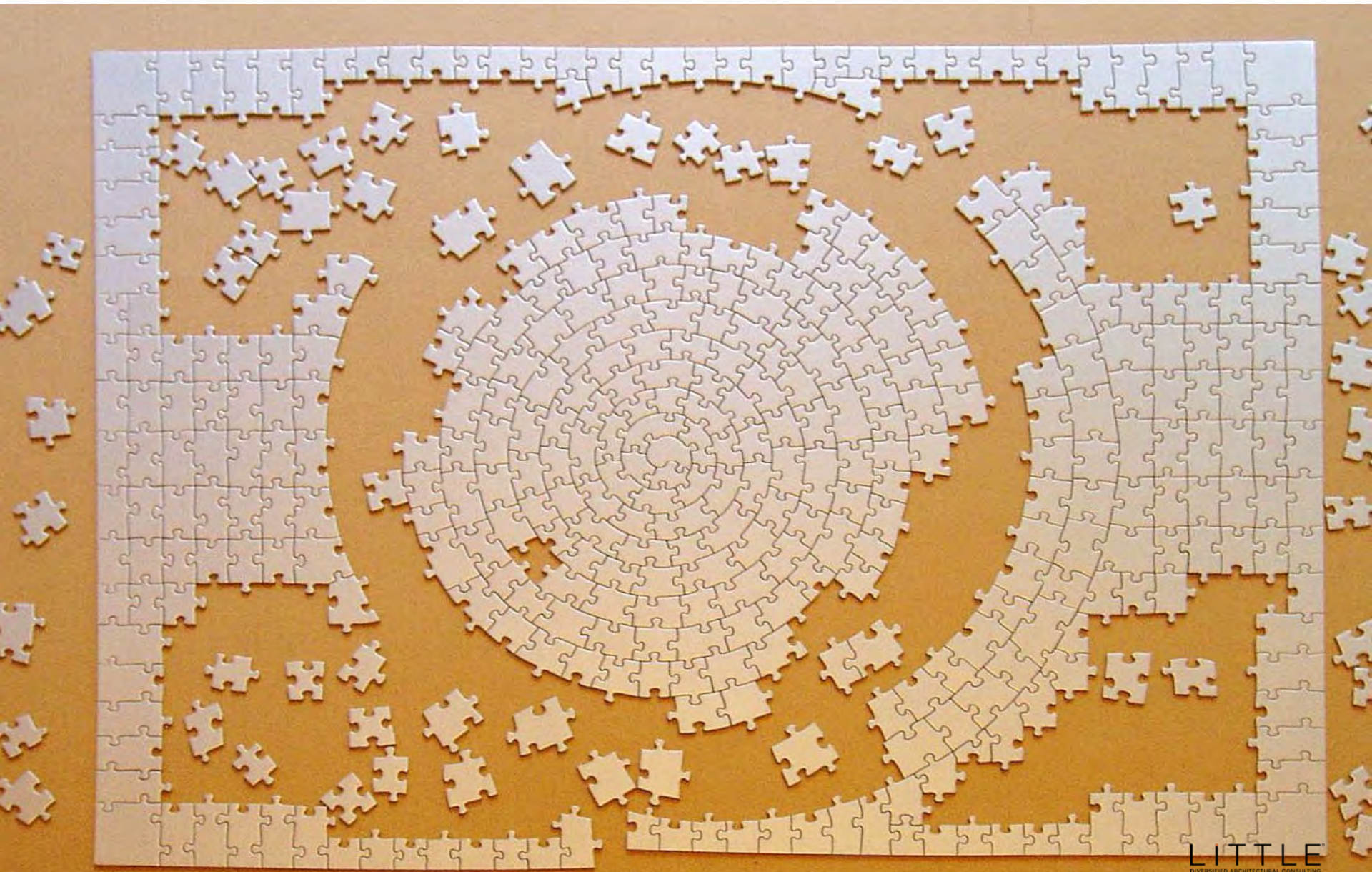
# KNOWLEDGE TODAY: PUZZLE PIECES

|                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |   |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
| D 32<br>H 0020 | D 33<br>H 0021 | !              | D 34<br>H 0022 | "              | D 35<br>H 0023 | #              | D 36<br>H 0024 | \$             | D 37<br>H 0025 | %              | D 38<br>H 0026 | &              | D 39<br>H 0027 | '              | D 40<br>H 0028 | (              | D 41<br>H 0029 | )              |   |
|                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |   |
| D 42<br>H 002A | *              | D 43<br>H 002B | +              | D 44<br>H 002C | ,              | D 45<br>H 002D | -              | D 46<br>H 002E | .              | D 47<br>H 002F | /              | D 48<br>H 0030 | 0              | D 49<br>H 0031 | 1              | D 50<br>H 0032 | 2              | D 51<br>H 0033 | 3 |
|                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |   |
| D 52<br>H 0034 | 4              | D 53<br>H 0035 | 5              | D 54<br>H 0036 | 6              |                |                |                |                |                |                |                |                |                |                |                |                |                |   |
|                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |   |

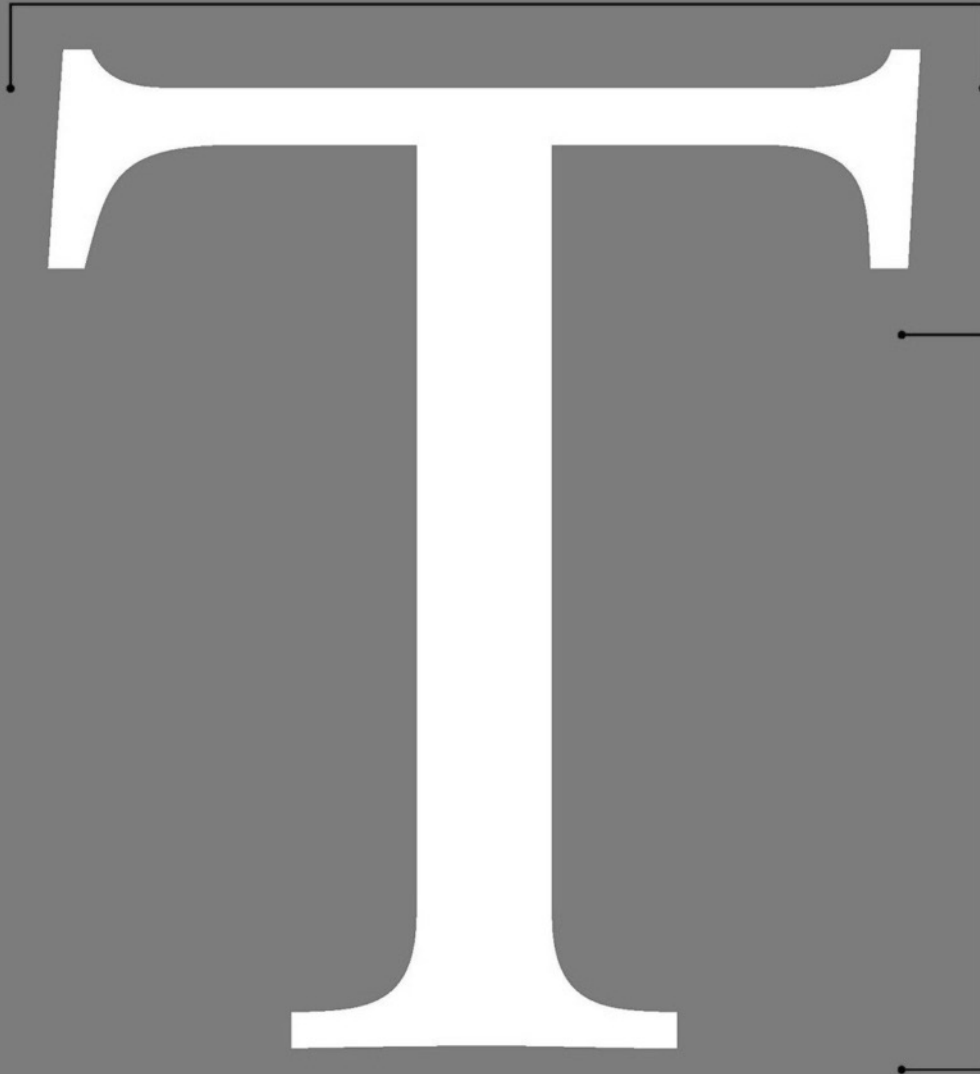
Fonts2u.com



# KNOWLEDGE TOMORROW: THE BIG PUZZLE



## IN SEARCH OF T-SHAPED PEOPLE



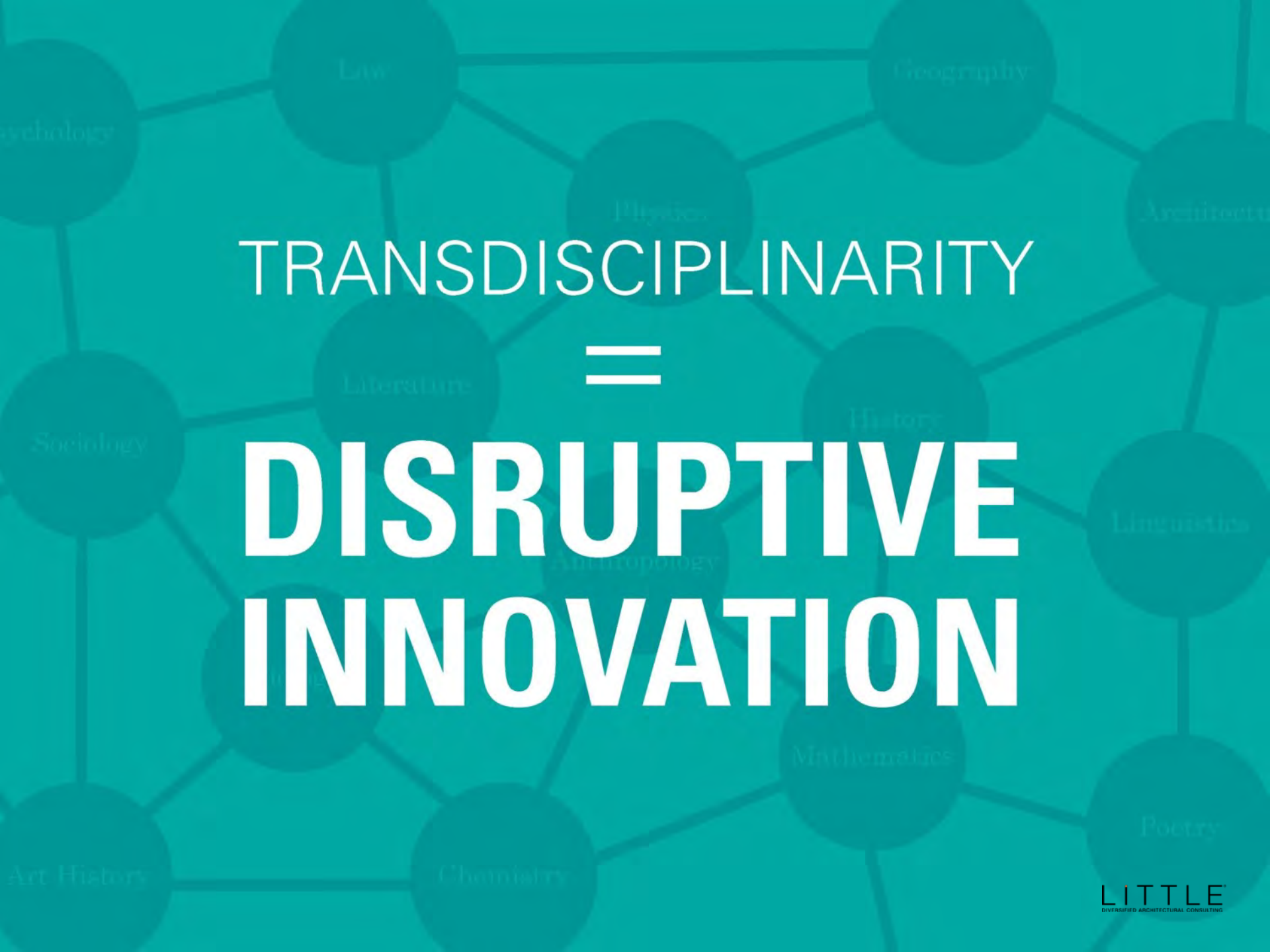
### **Horizontal**

Ability to understand  
multiple fields (disciplines)

### **Vertical**

Depth of understanding in  
the field (discipline)



A network diagram with teal circles connected by lines, each containing a discipline name: Law, Geography, Psychology, Physics, Architecture, Literature, History, Linguistics, Anthropology, Mathematics, Poetry, Chemistry, Art History, and Sociology. The text is centered over this background.

TRANSDISCIPLINARITY  
=  
**DISRUPTIVE  
INNOVATION**



LATEST

MAGAZINE

VIDEOS



How To Be More Innovative in 21st Century Learning



Your PlayStation 4 is About to Get These New Features



Read an 11-Year-Old's Heartwarming Essay About His Father's Return From World War II



The financial business news

CHASE



Apple in This Hug

CONTENT FROM FIFTH THIRD BANK, MEMBER FDIC

Watch to learn how food can help cancer patients heal

IDEAS EDUCATION

# How To Be More Innovative in 21st Century Learning

Sophia Krzys Acord, Kevin S Jones, Susan D Gillespie, University of Florida / The Conversation

@US\_conversation

Aug. 1, 2015



Try connecting the dots between science and humanities

Today's college students may benefit from an array of subjects to study. But they seem to need the most important education of all: how to connect specialization to others in an interconnected world.

The [Academy of Engineering](#) has stated that today's engineers need to be individuals who simply "like math and science" must be "creative problem-solvers" who "shape our future" by improving our health, happiness, and safety."

In 2001, the [engineering accreditation body ABET](#) added a [new criterion](#) so as to ensure that students get "the broad education necessary to understand the impact of engineering solutions in a global economic, environmental, and societal



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Connect the dots between Sciences and Humanities





Image: superkimbo/Flickr

## No more physics and maths, Finland to stop teaching individual subjects

**The future is all about learning by topic, not subject.**

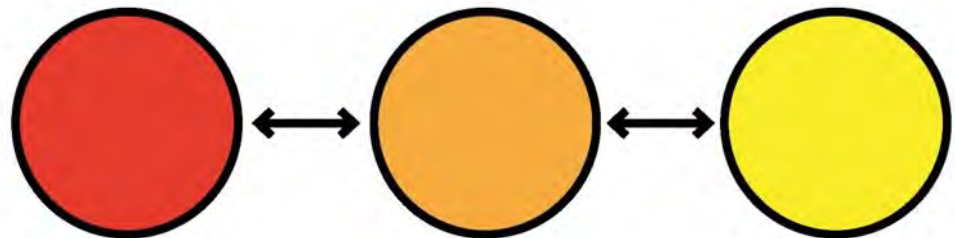
Transdisciplinary —



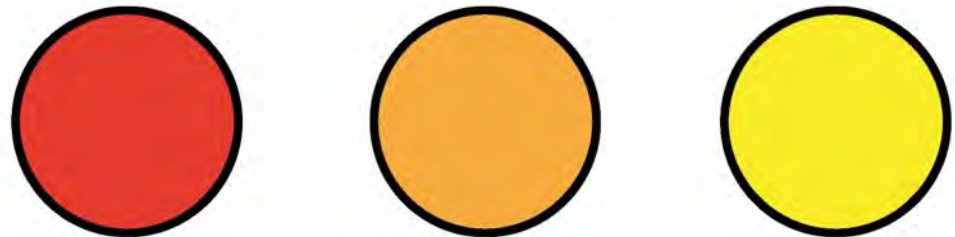
Interdisciplinary —



Multidisciplinary —



Disciplinary —

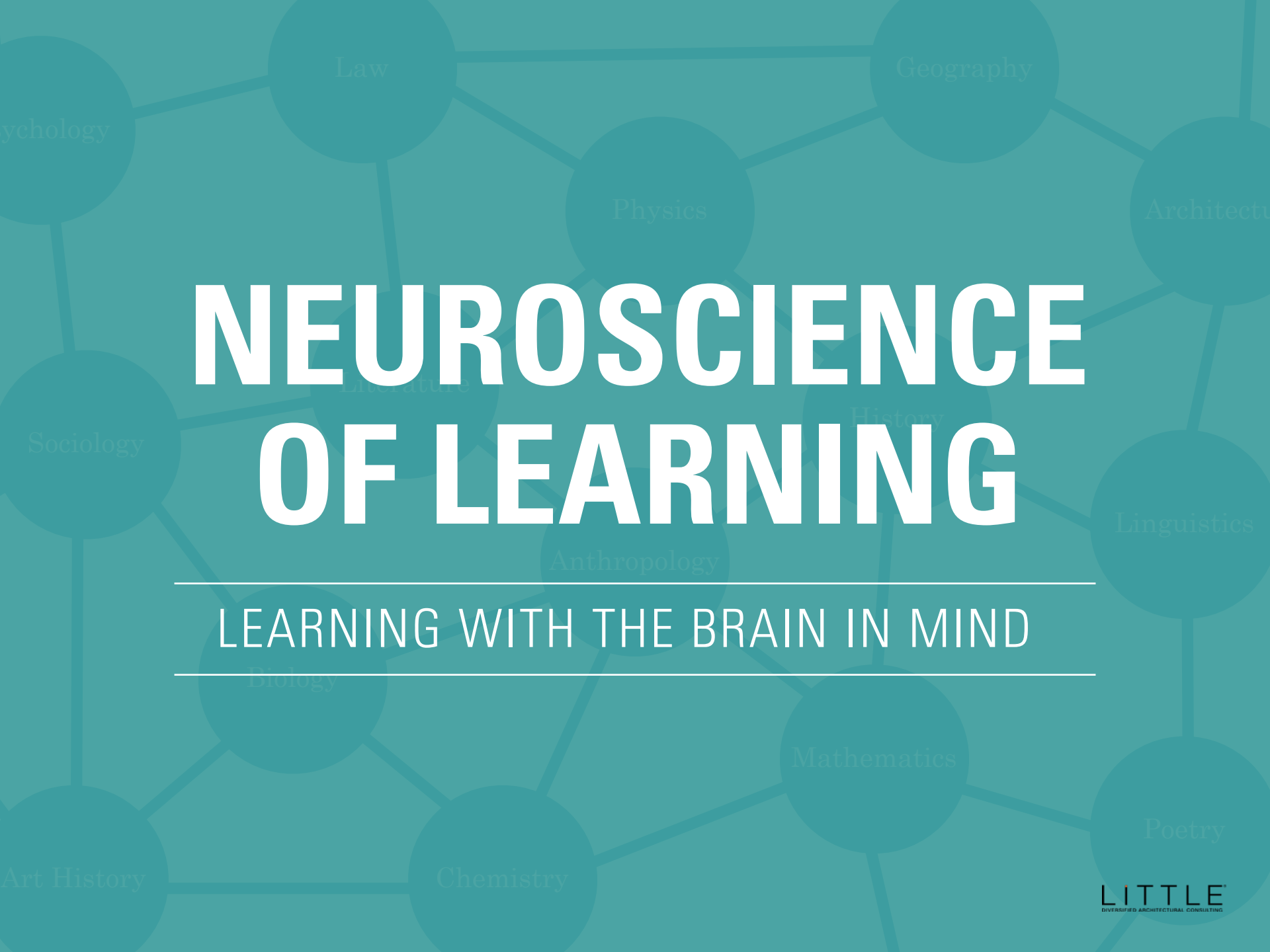




**HOW ARE WE TO DESIGN  
LEARNING ENVIRONMENTS FOR THE**

# **INNOVATION ECONOMY?**





# NEUROSCIENCE OF LEARNING

---

LEARNING WITH THE BRAIN IN MIND

---



**POLL:**

*How much do you know about*

**NEUROSCIENCE AND  
LEARNING?**

**POLL:**

*How much do you know about*

# **NEUROSCIENCE AND LEARNING?**

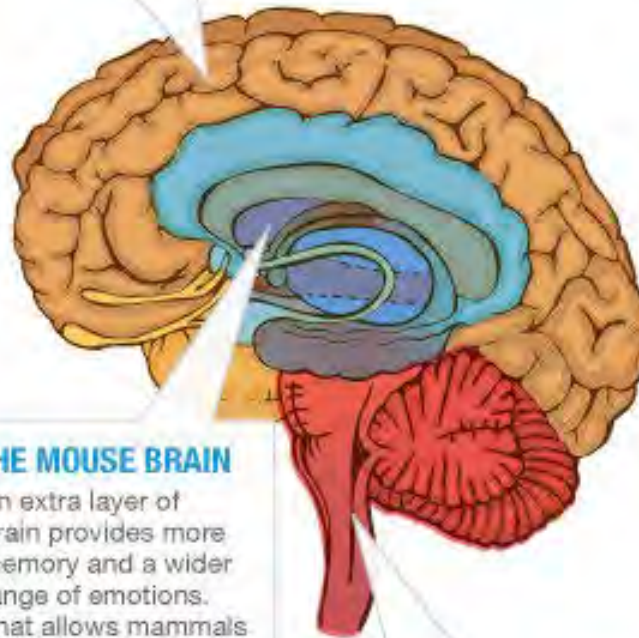


# A VERY UGLY ICE CREAM CONE

A BRIEF INTRODUCTION  
TO YOUR BRAIN

### THE HUMAN BRAIN

With 100 billion cells and 500 trillion connections, this part of the brain allows us to solve difficult problems and navigate a very complex social world. It's also responsible for imagination, culture and the ability to figure out what other people are thinking based on social cues.



### THE MOUSE BRAIN

An extra layer of brain provides more memory and a wider range of emotions. That allows mammals to do things like learn from their experiences and anticipate danger, rather than merely reacting to it.

### THE LIZARD BRAIN

This ancient brain is all about survival. When danger appears, it decides whether to fight or flee.





## HYPOTHALAMUS

Sleep Center  
Circadian Rhythms  
Hormone Release

## AMYGDALA

Alarm System  
Decoding Emotions  
Processing Memories

## HIPPOCAMPUS

Formation & Recall Memories  
NOT Storage  
Orientation / Environment

---

# THE STRUCTURES IN THE BRAIN

---



# MOVEMENT & THE BRAIN

NEUROGENERATION &  
NEUROPLASTICITY



# NEUROPLASTICITY

STRENGTHENING  
OF NEURONS THROUGH  
ESTABLISHING NEW  
CONNECTIONS

**ACTIVITY =  
MEMORY**





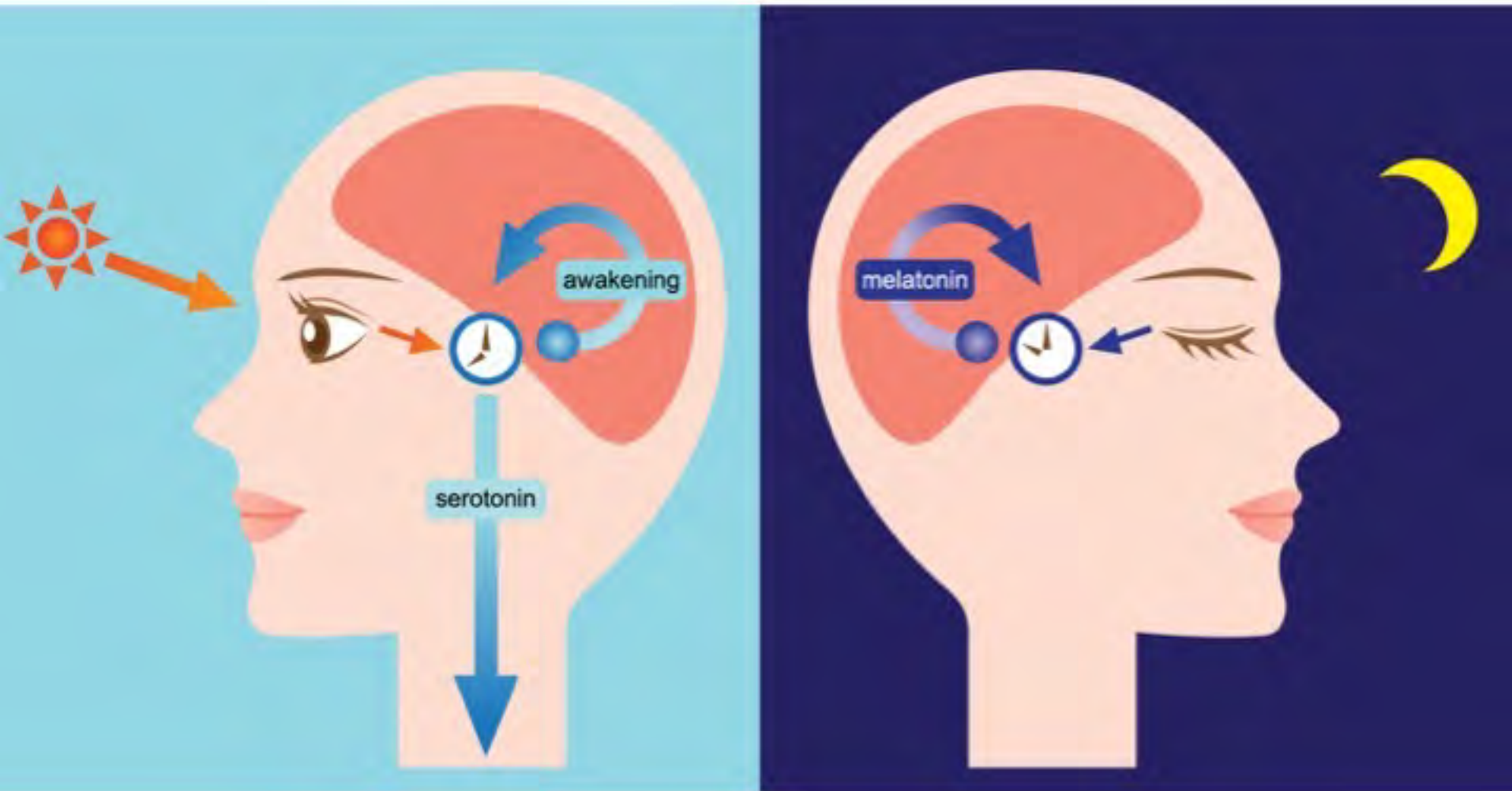


# TIME & THE BRAIN

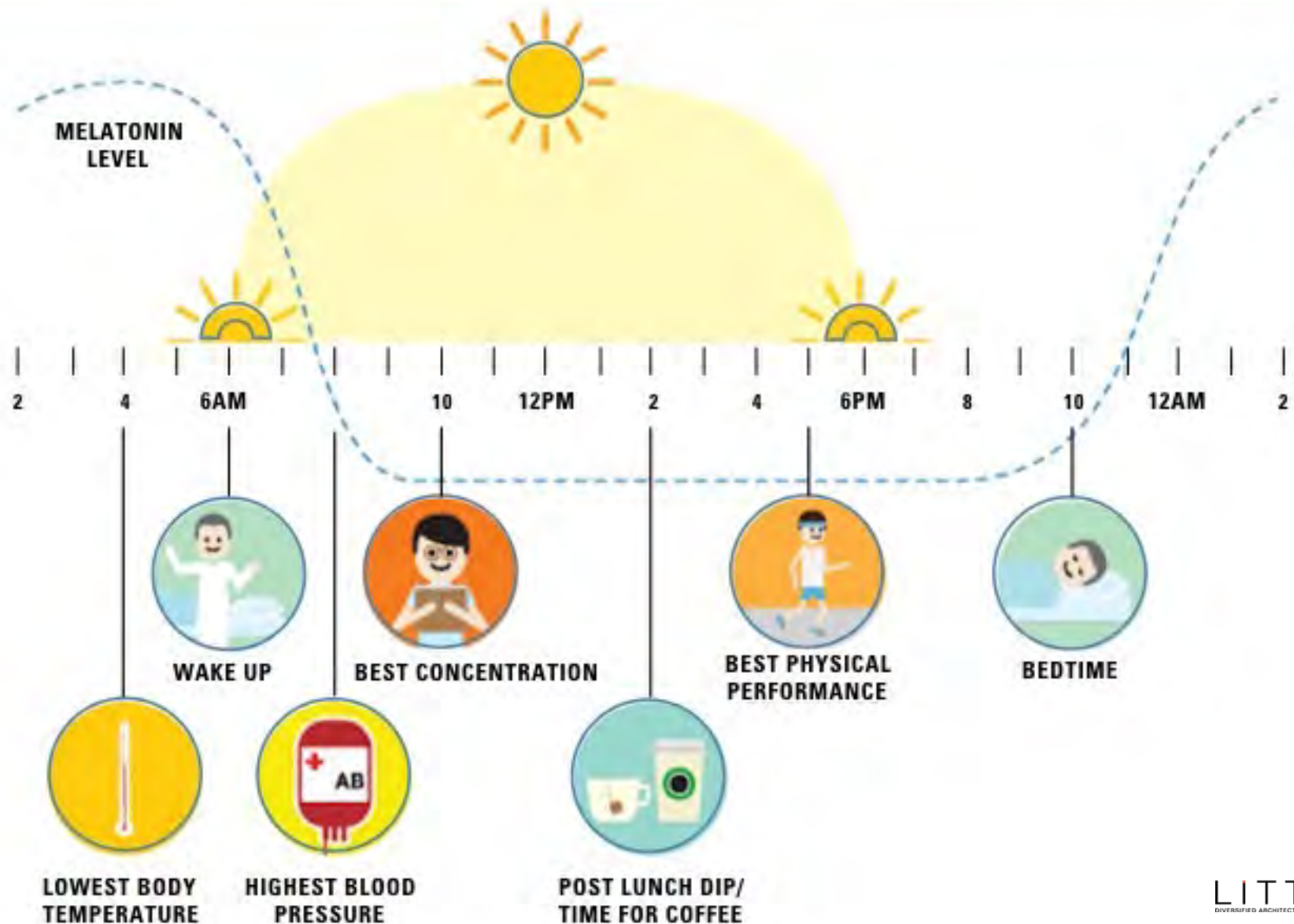
CHRONOBIOLOGY &  
CIRCADIAN RHYTHM



# MELANOPIC LIGHT & CIRCADIAN RHYTHM

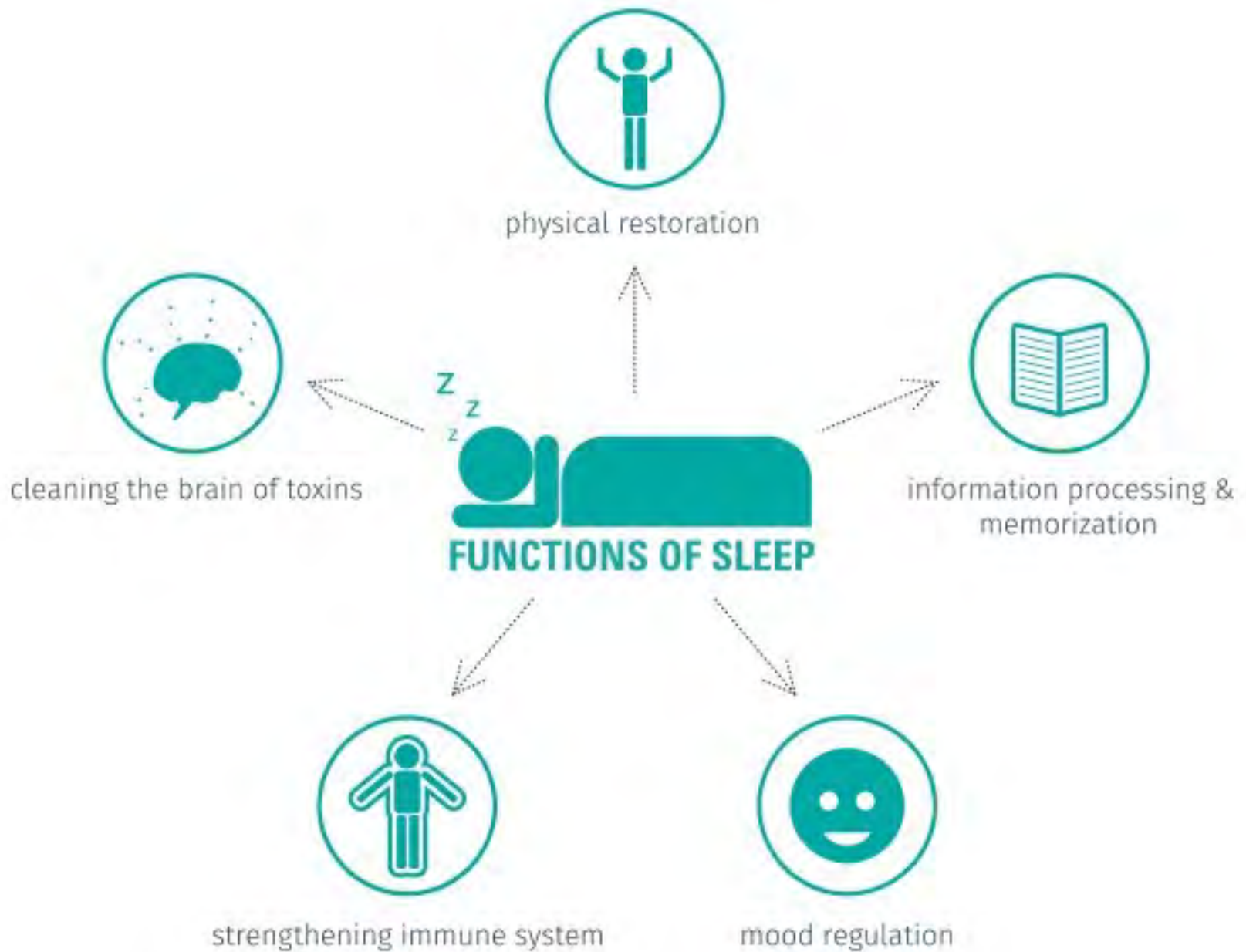


# MELANOPIC LIGHT & CIRCADIAN RHYTHM





# SLEEP & THE BRAIN





Z z z



SHORT TERM  
MEMORIES  
BECOME LONG  
TERM MEMORIES  
THROUGH SLEEP





**DEVICE  
LIGHT**

LITTLE



# NATURE & THE BRAIN

BIOPHILIC DESIGN

A person is shown from the waist down, sitting in a meditative lotus position on a wooden pier. Their hands are resting on their knees in a mudra, with fingers interlaced. The background features a calm body of water and a sky with soft, colorful clouds in shades of blue, orange, and pink, suggesting a sunset or sunrise. The overall mood is peaceful and contemplative.

# **MIND-BODY CONNECTION**



# *ATTENTION RESTORATION THEORY*



# ATTENTION RESTORATION THEORY

## FLOW STATES



**DIRECT  
ATTENTION**



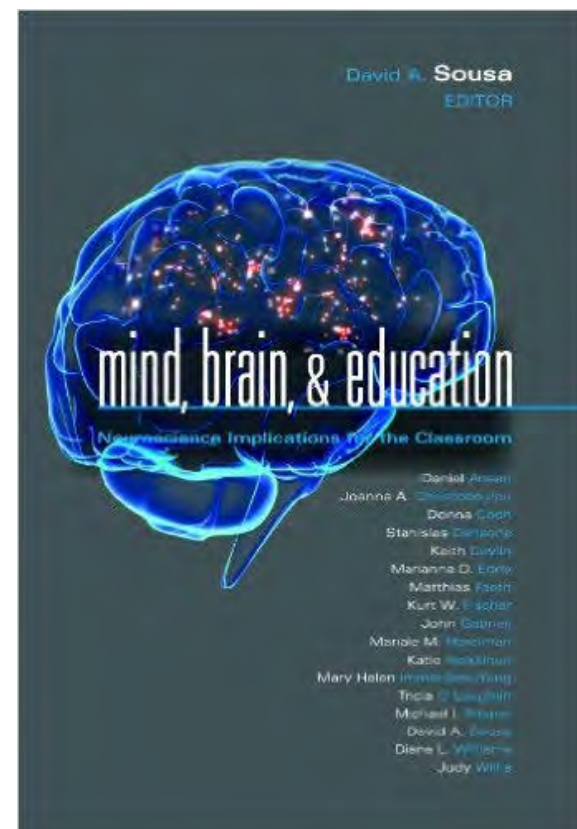
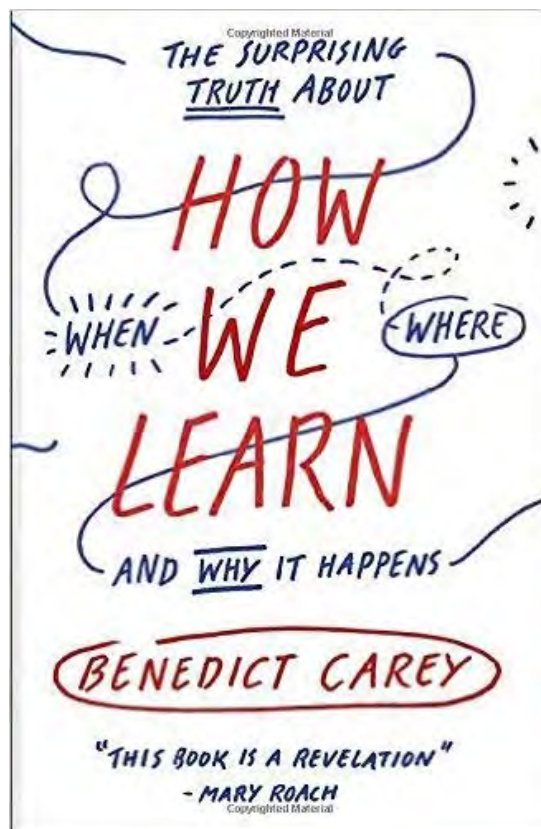
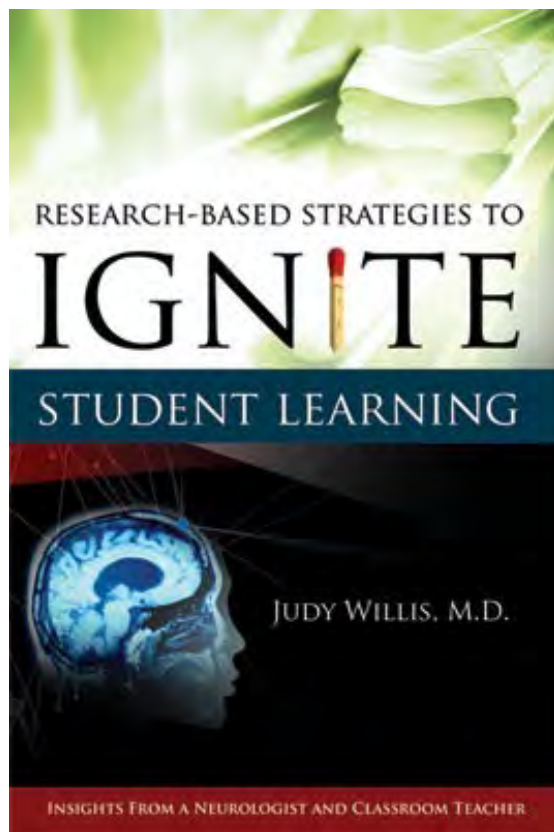
**DIRECT  
ATTENTION  
FATIGUE**



**ATTENTION  
RESTORATION**

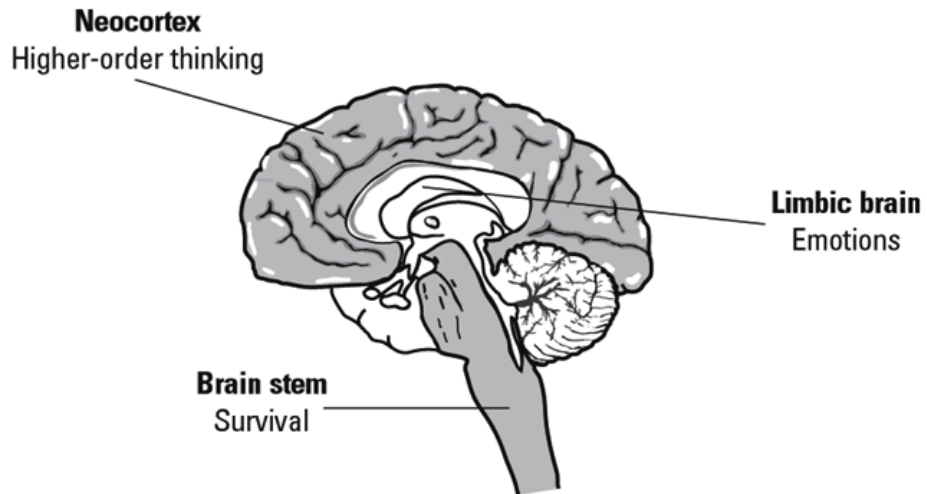






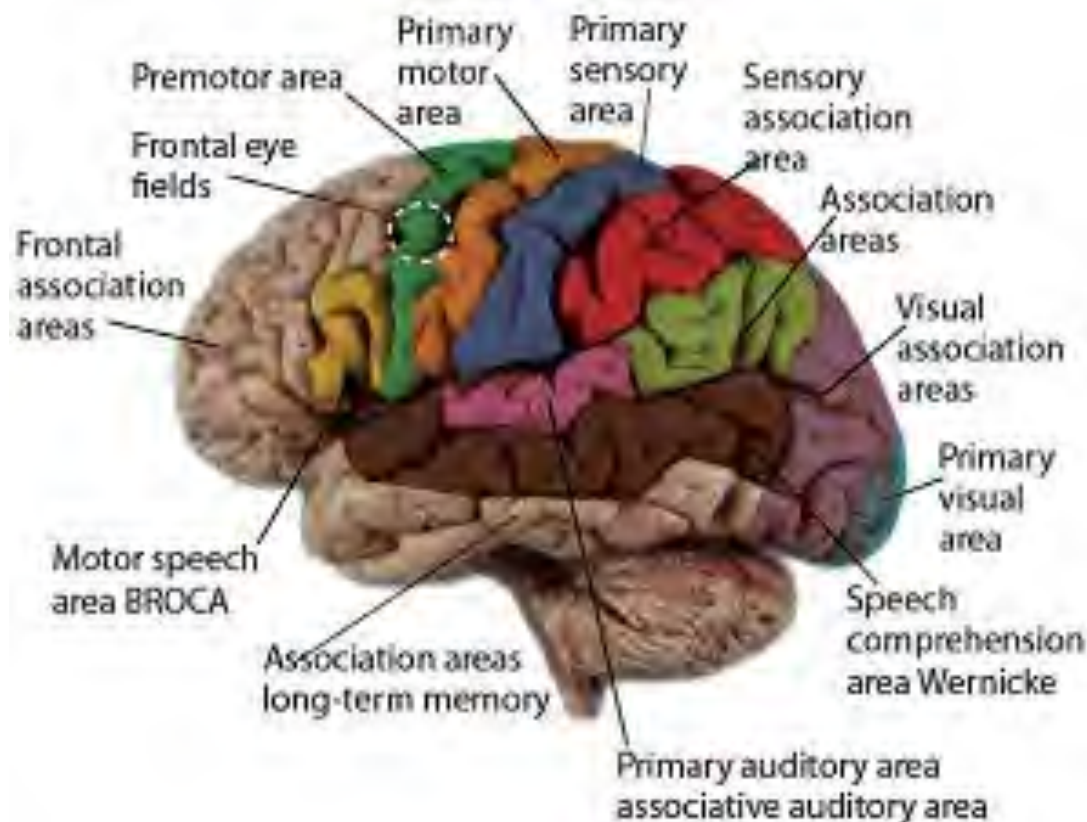


TO LEARN WE NEED TO MOVE  
STUDENTS FROM THINKING IN  
THE NEOCORTEX TO THE LIMBIC  
SYSTEM BECAUSE IT HELPS  
STUDENTS TO LEARN WHEN  
THEY HAVE A STRONG  
EMOTIONAL CONNECTION.



# *PROCESS OF MEMORIZATION*

The somatosensory Cortex Areas - each individual sense (hearing, smelling, tactile, visual, movement) receives input which is then classified or identified by comparing it to previously stored data.



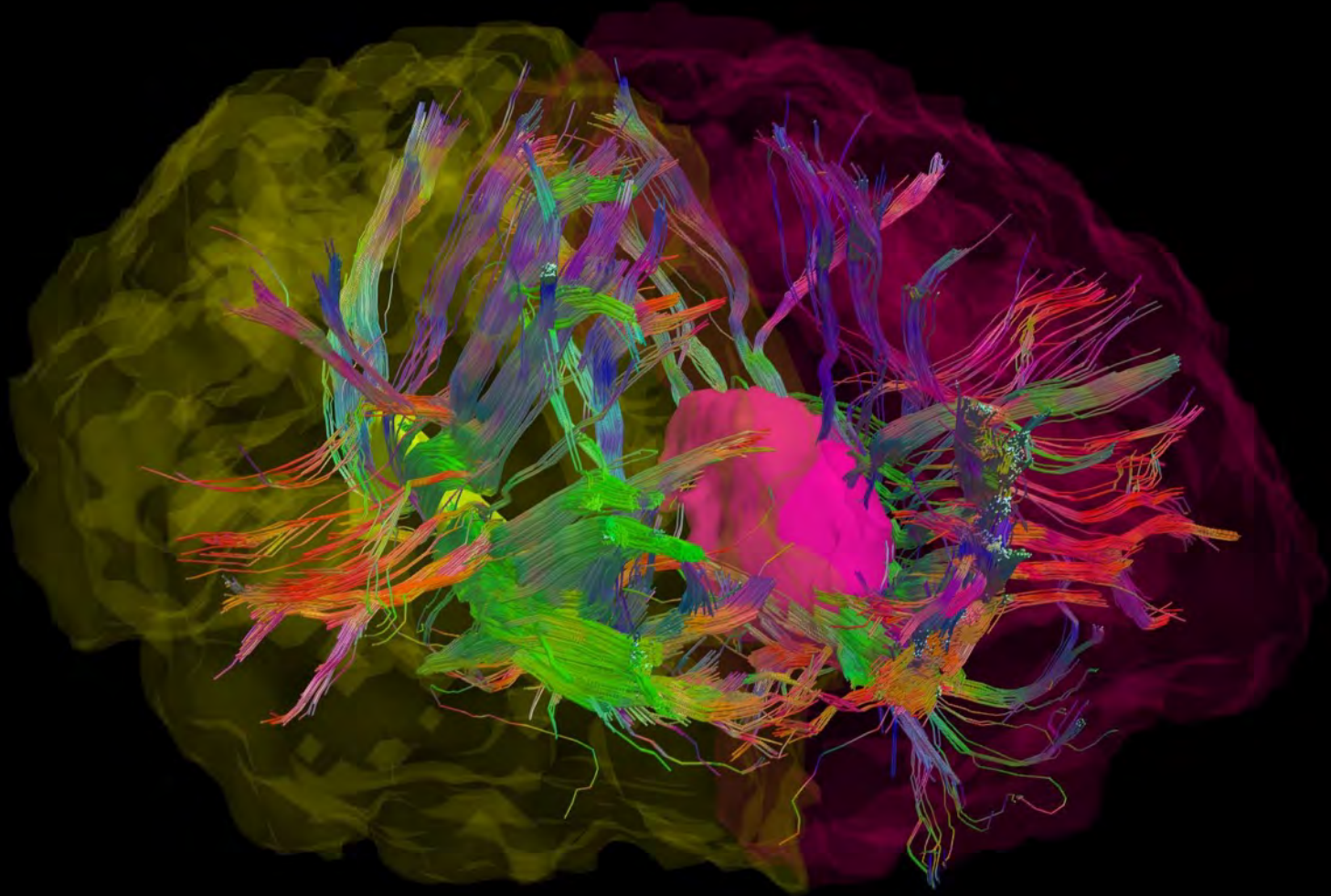


Brain research discovery suggests that **stimulating the growth of more dendrites and synaptic connections** is one of the best things teachers can learn to do for the brains of their students.



“IN THE CLASSROOM, **THE MORE WAYS THE MATERIAL TO BE  
LEARNED** IS INTRODUCED TO THE BRAIN AND REVIEWED, THE  
MORE DENDRITE PATHWAYS OF ACCESS WILL BE CREATED”

- JUDY WILLIS, IGNITE LEARNING (4)



“THE CROSS  
REFERENCING OF DATA  
STRENGTHENS THE DATA  
INTO SOMETHING WE'VE  
LEARNED RATHER THAN  
JUST MEMORIZED”

- JUDY WILLIS, IGNITE LEARNING (4)





# Learning: It's ALL About the Connections

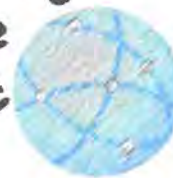


Neural  
Connections

Connecting of  
Concepts



Connecting  
with the  
Internet



Human and Social  
Connections



Connecting  
Past, Present,  
& Future



Connecting  
of Objects to  
One Another -  
Making



Connecting  
with Oneself



Connecting  
of Human  
Networks  
(PLNs)





# WELLNESS & LEARNING

---

EFFECTIVE & OPTIMAL LEARNING

---

**POLL:**

*When you think about Wellness in schools,*

**WHAT COMES TO  
MIND?**

**POLL:**

*True or False:*

**MORE MOVEMENT IN  
THE CLASSROOM  
CREATES A MORE  
DISRUPTIVE  
ENVIRONMENT.**

**POLL:**

*True or False:*

**VIEWS OF THE  
OUTDOORS CREATE A  
DISTRACTION FOR  
MANY STUDENTS.**





# TREND COMMUNITY

COMMUNITY IS IMPORTANT TO THE HEALTH AND WELL BEING OF ALL HUMANS. THE WELL BUILDING STANDARD FOCUSES ON CREATING INTERIOR AND EXTERIOR ENVIRONMENTS THAT ARE HEALTHY PLACES FOR PEOPLE TO GATHER.

*TREND: COMMUNITY*  
**WE WORK TOGETHER**





# *TREND: COMMUNITY* **WE HANG OUT**





# TREND NATURAL VIEWS

STUDIES HAVE SHOWED THAT HUMANS ARE CALMED BY VIEWS OF NATURE. IT IS VESTIGE OF OUR EVOLUTIONARY MEMORY. KEEPING THE WINDOW LINE OPEN TO OUTSIDE VIEWS REDUCES STRESS, IMPROVES HEART RATE AND HELPS PEOPLE RECHARGE THEIR ENERGY.



# *TREND: NATURAL VIEWS*





# **TREND** **SPATIAL VARIETY**

THE NOVELTY NEURON IN OUR BRAIN IS CONSTANTLY LOOKING FOR SOMETHING TO DO. PROVIDING SPACES THAT SUIT A VARIETY OF NEEDS – BASED ON THE ACTIVITY AND PROCESSES TAKING PLACE IN THE SPACE – HELPS TO KEEP US ENGAGED, AND HOLD OUR ATTENTION.



# *TREND: SPATIAL VARIETY*





# *TREND: SPATIAL VARIETY*







# TREND INTUITIVE DESIGN

NOT UNDERSTANDING HOW WE'RE SUPPOSED TO USE SPACE RESULTS IN ADDED STRESS ON PEOPLE. CARE MUST BE TAKEN TO SEND VISUAL CUES THROUGH THE USE OF ARCHITECTURAL ELEMENTS, AND OTHER WAYFINDING MEANS, WHICH HELPS TELEGRAPH WHAT TO DO, AND WHERE TO GO IN SPACE.

# *TREND: INTUITIVE DESIGN*



# TREND: INTUITIVE DESIGN







# TREND ACTIVE DESIGN

USING FURNITURE THAT HELPS CHILDREN BE MORE ACTIVE ALLOWS A CHANGE IN POSTURE RESULTING IN GREATER ATTENTIVENESS, AND FEWER MUSCULOSKELETAL ISSUES. IT ALSO HELPS PREVENT THE CREATION OF A SEDENTARY BEHAVIOR PROFILE, BREAKING THE EFFECTS OF SITTING DISEASE.



# 52%

## MORE LIKELY TO TAKE STAIRS AFTER SEEING SIGNS

A large digital display with a dark green background on the left and a white background on the right. The left side features a white silhouette of a person running up stairs next to a red heart, with the text 'Take the stairs' in red. Below this is the StepJockey logo and website. The right side has the text 'It's a vertical rush that builds fitness and muscle tone fast' in red. Below this, it says 'Track your calorie burn' and shows three statistics: '6 Total floors', '24 Steps per floor', and '144 Total steps', each with a corresponding icon. To the right of these is a QR code labeled 'SCAN'. At the bottom, it shows 'Calorie burn' with a flame icon, '3.41 Cals per floor up', '1.71 Cals per floor down', and '30.7 Total calories', each with a corresponding icon. To the right of these is an NFC symbol labeled 'TAP'.

It's a vertical rush  
that builds fitness  
and muscle tone fast

Track your  
calorie burn

6 Total floors

24 Steps per floor

144 Total steps

SCAN

Calorie burn

3.41 Cals per floor up

1.71 Cals per floor down

30.7 Total calories

NFC TAP

StepJockey.com

# *TREND: ACTIVE DESIGN*





# *TREND: ACTIVE DESIGN*

“Children who are more active show greater attention, have faster cognitive processing speed and perform better on standardized academic tests.”

James F. Sallis, UC San Diego



# **TREND** **NOURISHMENT**

UNDERSTANDING THE ROLE OF  
NOURISHMENT ENCOURAGES BETTER  
EATING HABITS AND FOOD CULTURE,  
AND AN AWARENESS ABOUT WHAT  
FOODS ARE HEALTHY AND WHAT  
FOODS INCREASE ALLERGIES AND  
INFLAMMATION, LEADING TO  
SICKNESS AND DISEASE.



# *TREND: NOURISHMENT*

TEACH  
CHILDREN  
WHERE THEIR  
FOOD COMES  
FROM





## TREND: NOURISHMENT

## Sustainability @ Penn Map: Locations of Water-filling Stations on Campus

Visit [bit.ly/iNeedWater](http://bit.ly/iNeedWater) for more details



## Specific Locations

- 1 - **Harnwell College House:** 1st floor library  
2 - **Huntsman Hall:** 1st floor near bathrooms, G95  
3 - **McNeil:** suite 20

**Caster Building:** near 1st floor elevator  
**School of Education (GSE):**

SHOW  
EVERYONE  
WHERE TO  
ACCESS CLEAN  
DRINKING  
WATER



# The WELL Building Standard





# CERTIFICATION LEVELS



## SILVER

100% Preconditions  
+ 20% Optimizations



## GOLD

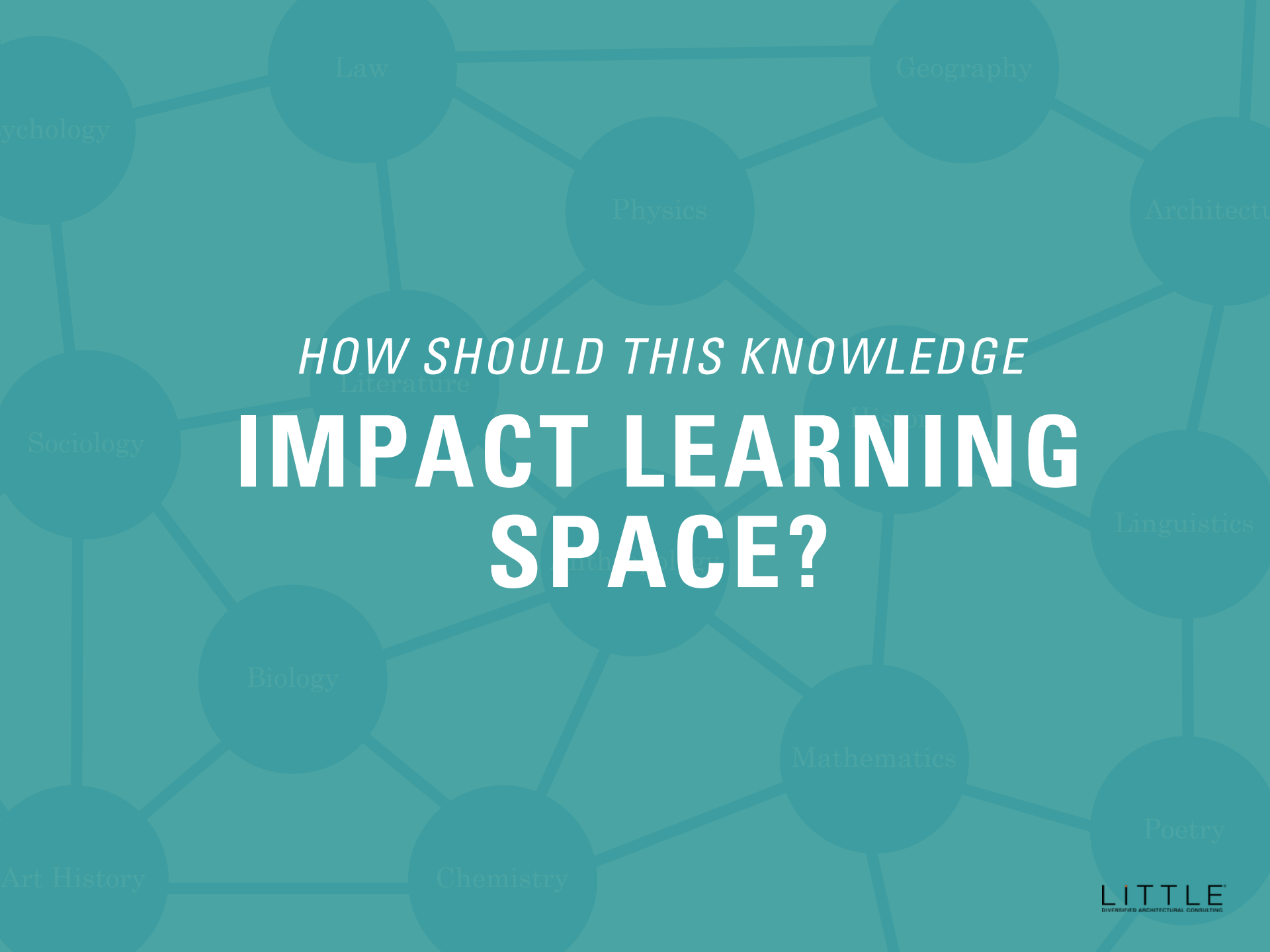
100% Preconditions  
+ 40% Optimizations



## PLATINUM

100% Preconditions  
+ 80% Optimizations





*HOW SHOULD THIS KNOWLEDGE*

# **IMPACT LEARNING SPACE?**

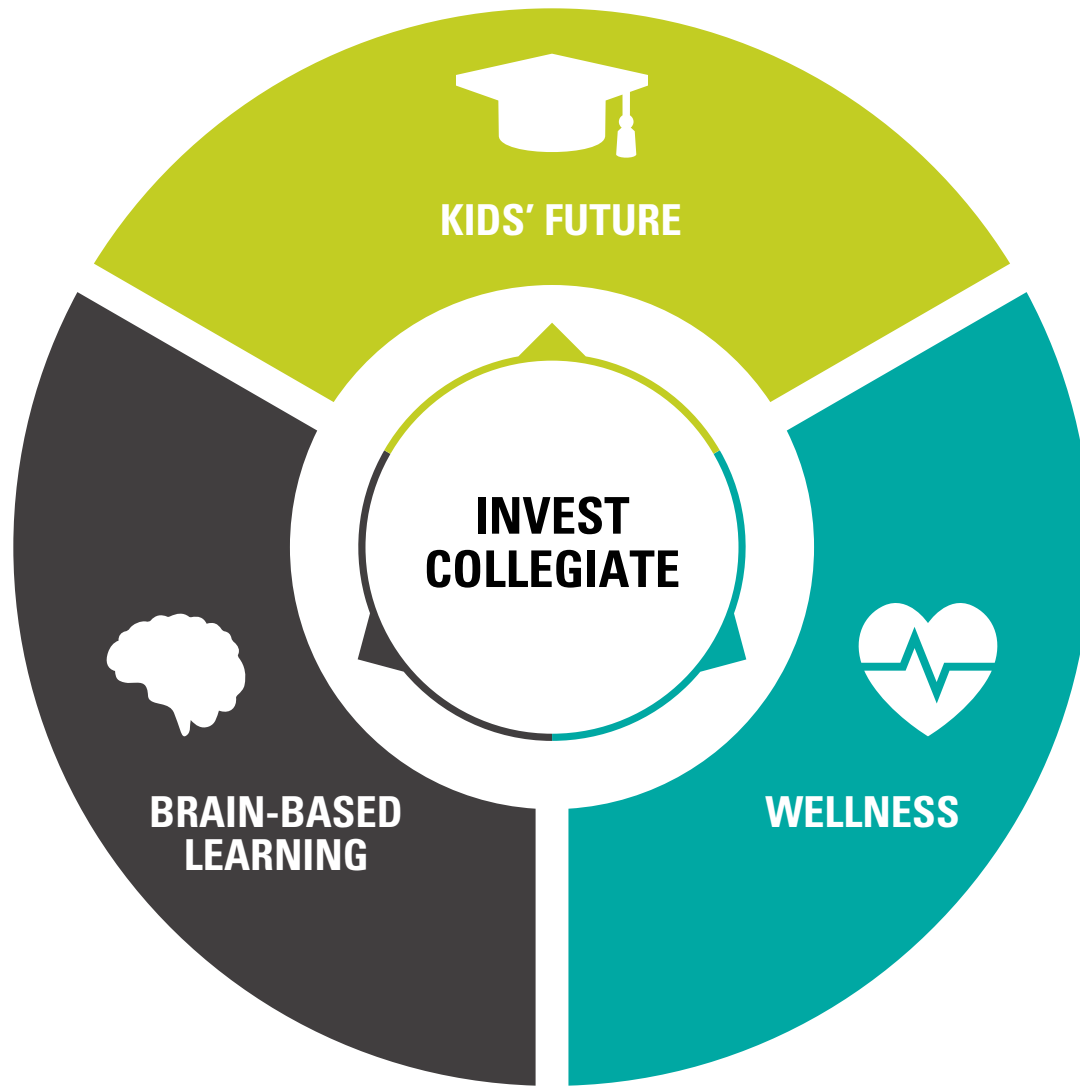


The background of the slide is a photograph of a school hallway. In the foreground, a group of diverse young students are sitting on the floor, looking towards the right. In the background, a teacher is sitting on the floor, gesturing while talking to the students. The hallway has large windows and glass doors, and the overall atmosphere is bright and educational.

# **CASE STUDY:** INVEST COLLEGIATE CHARTER SCHOOL

---

*Bringing it all together*





# INVEST COLLEGIATE CHARTER SCHOOL: TRANSFORM



RELEVANCE :  
EMOTIONAL LEARNING  
LITTLE<sup>®</sup>  
DIVERSIFIED ARCHITECTURAL CONSULTING





# SCHOOL DATA:

## TYPE OF PROJECT DELIVERY:

DEVELOPER-FUNDED, CHARTER SCHOOL LEASE BACK; CM-AT-RISK.

## SITE AREA:

8.94 ACRES

## BUILDING AREA GROSS SF:

80,000 SF (LEVEL 1: 28,200 SF; LEVEL 2: 27,000 SF; LEVEL 3: 24,800 SF)

## BUILDING AREA NET SF:

50,400 SF (37% GROSSING FACTOR)

## # OF STUDENTS:

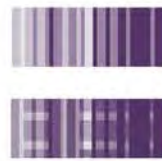
571 (K-8). ( CAPACITY 650)

## COST:

\$11.265 MILLION (148/SF) (SITE: \$1.4; BLDG:\$9.6; FURNITURE \$.235; TECH: \$.030)



# CONNECT



ELEVATION STUDY





# *TREND: COMMUNITY*



COMMUNITY AND  
FEELING LOVED  
LESSENS STRESS,  
HELPS PEOPLE FEEL  
VALUED AND FIND  
MEANING

# *TREND: COMMUNITY*



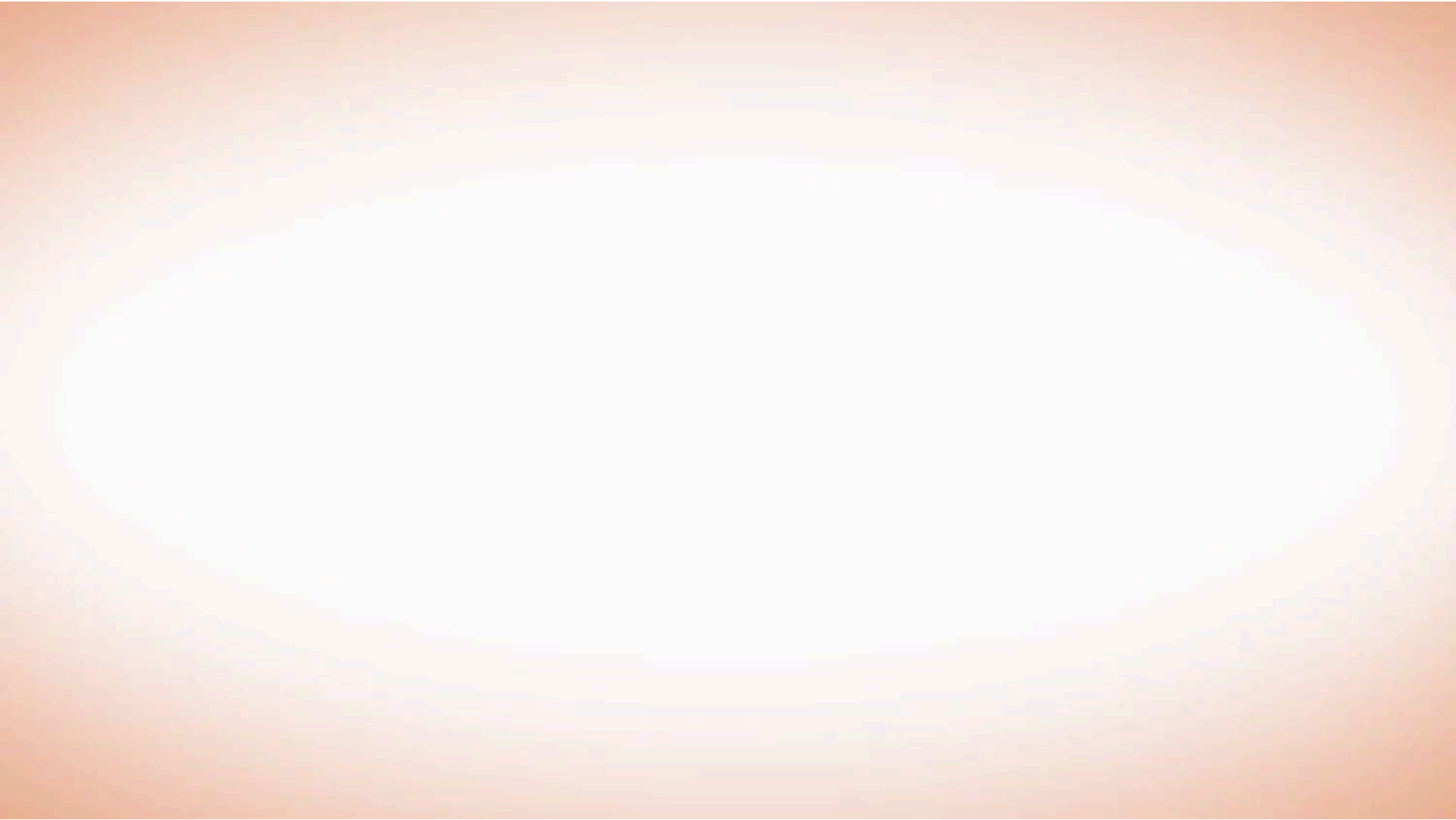



# *TREND: COMMUNITY*

“CHANGES AND  
VARIATIONS IN THE  
ENVIRONMENT  
INTRIGUE CHILDREN  
AND CAUSE THEM TO  
VISUALLY ATTEND TO  
THE UNUSUAL”









“OUR BRAINS ARE  
STRUCTURED TO REMEMBER  
NOVEL EVENTS THAT ARE  
UNEXPECTED. BRAINS ARE  
PARTICULARLY STIMULATED  
WHEN THEY PREDICT ONE  
EFFECT AND EXPERIENCE  
ANOTHER”

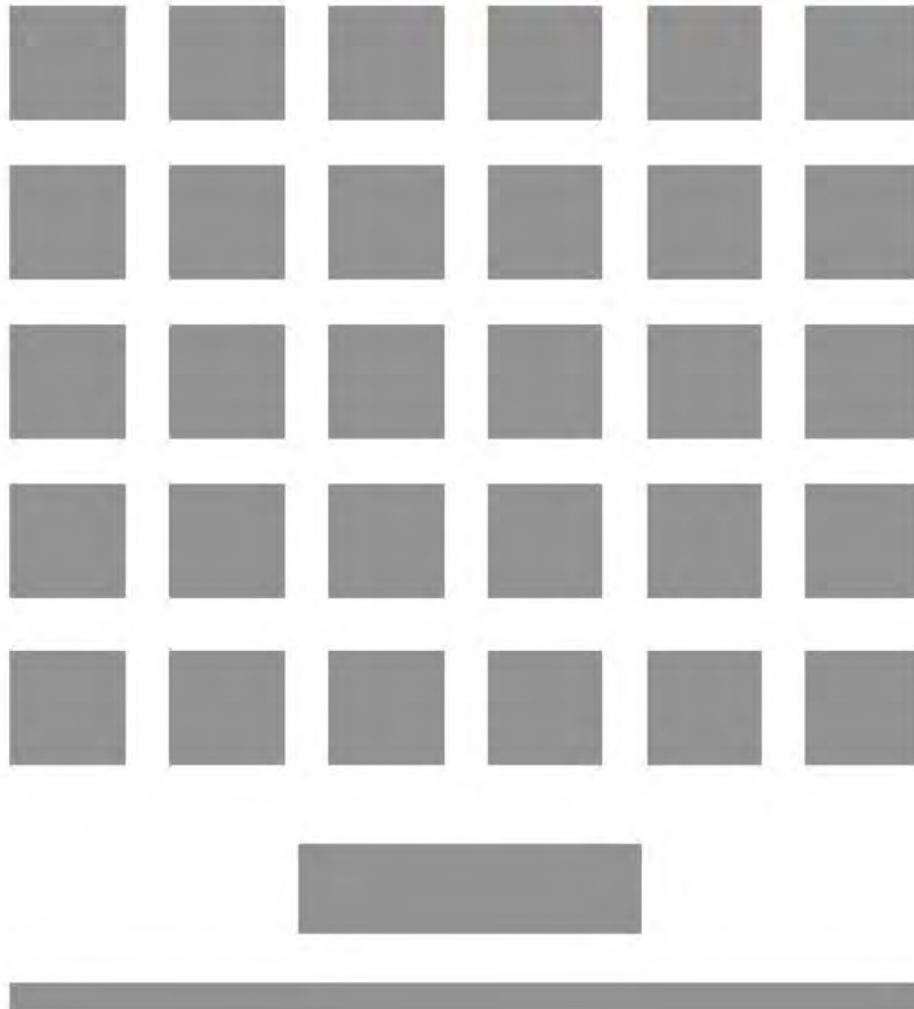
# *TREND: SPATIAL VARIETY*



**Variety** allows the novelty neuron in the brain to “chew” on something to keep it engaged and active



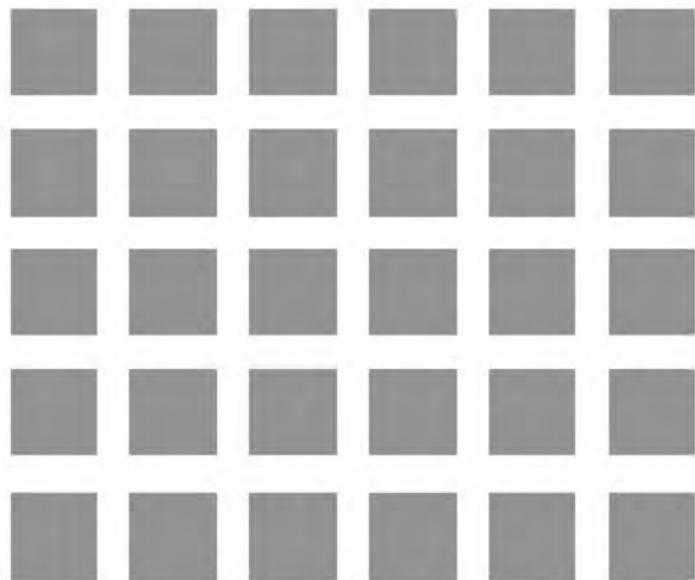
# classROOM



# vs. learning **SCAPE**

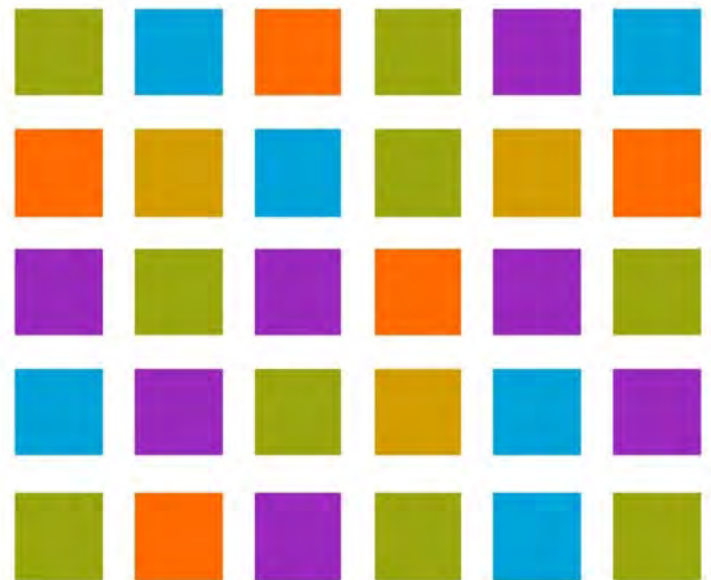


# methodologies of **TEACHING**



vs.

# typologies of **LEARNING**

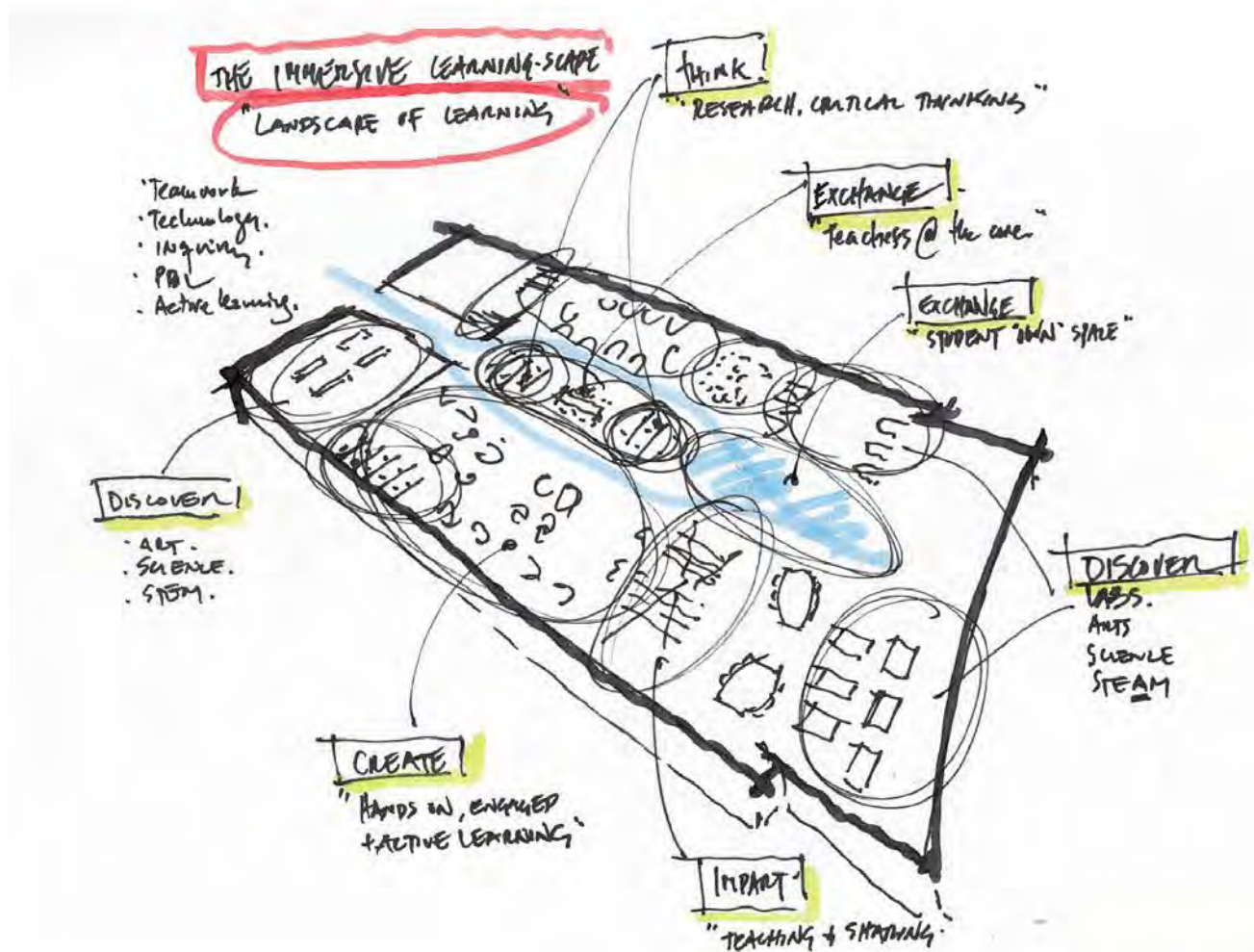




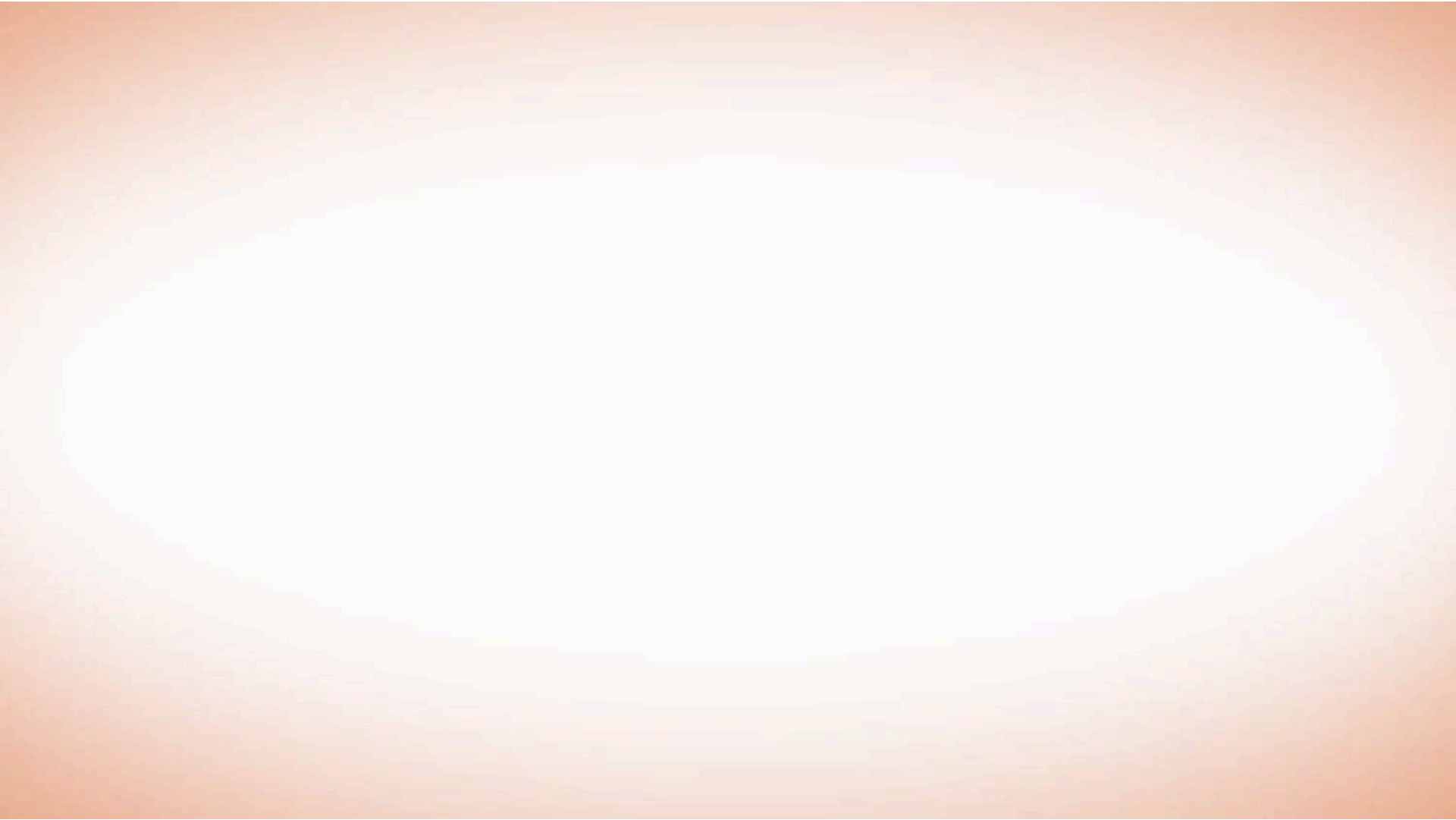
# THE IMMERSIVE LEARNINGSCAPE

## SPATIAL VARIETY

1. Support teaching & learning of 21st Century skills
2. Support Multiple modalities of Learning,
3. Incorporate technology
4. Provide a landscape of various learning spaces to support Personalization & Differentiation



# NEXT GENERATION LEARNING @ INVEST COLLEGIATE



*typologies of*  
**LEARNING** - *space*



typologies of  
**LEARNING-**  
*space*



**THINK**



**CREATE**



**DISCOVER**

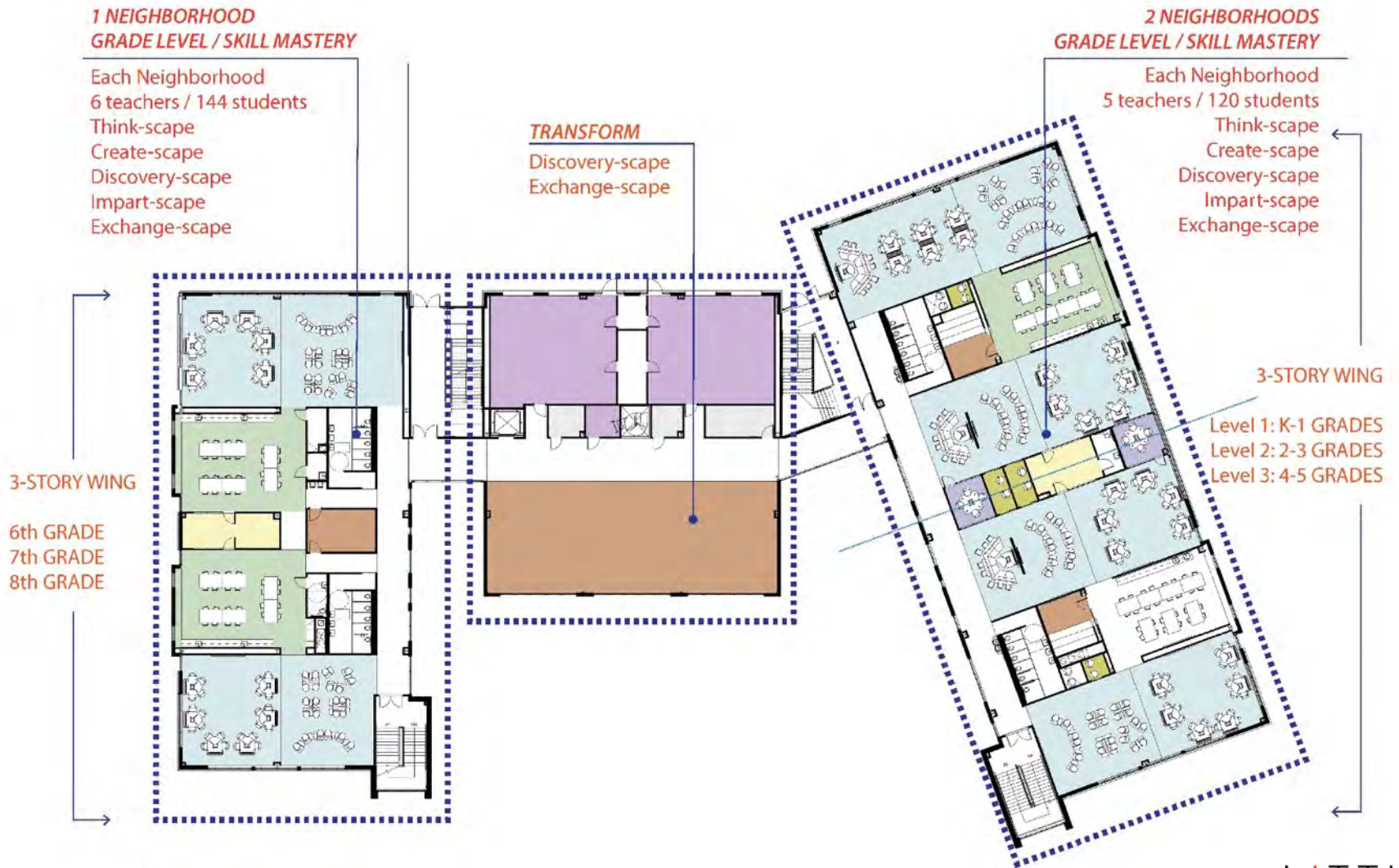


**IMPART**



**EXCHANGE** LITTLE  
DIVERSIFIED ARCHITECTURAL CONSULTING

# THE IMMERSIVE LEARNINGSCAPE





# Department Legend

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



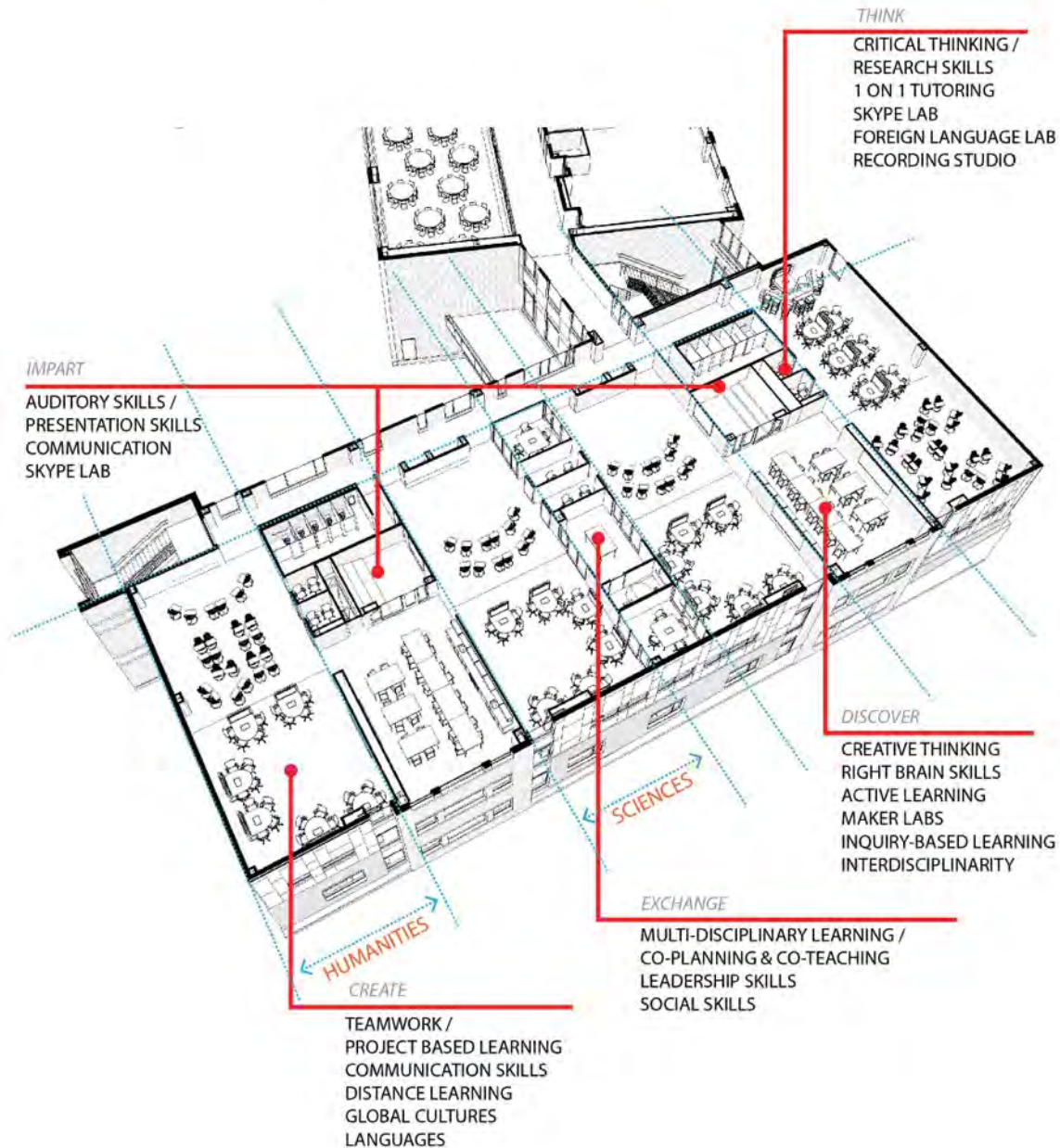
LEVEL 1 FLOOR PLAN



LEVEL 3 FLOOR PLAN



# TYPOLOGIES OF LEARNING AT INVEST



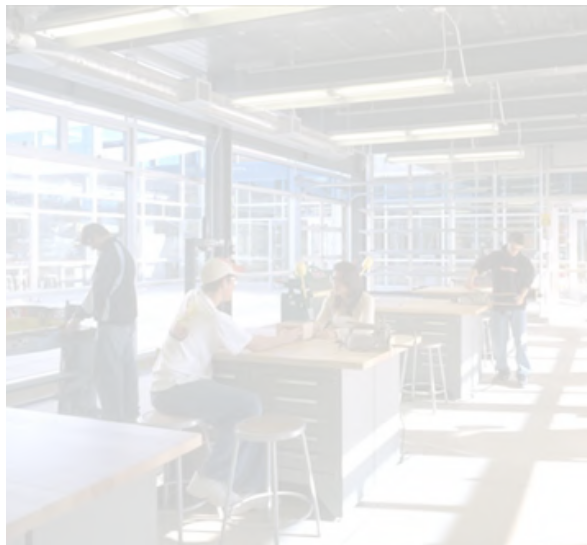
typologies of  
**LEARNING-**  
*space*



**THINK**



**CREATE**



**DISCOVER**



**IMPART**



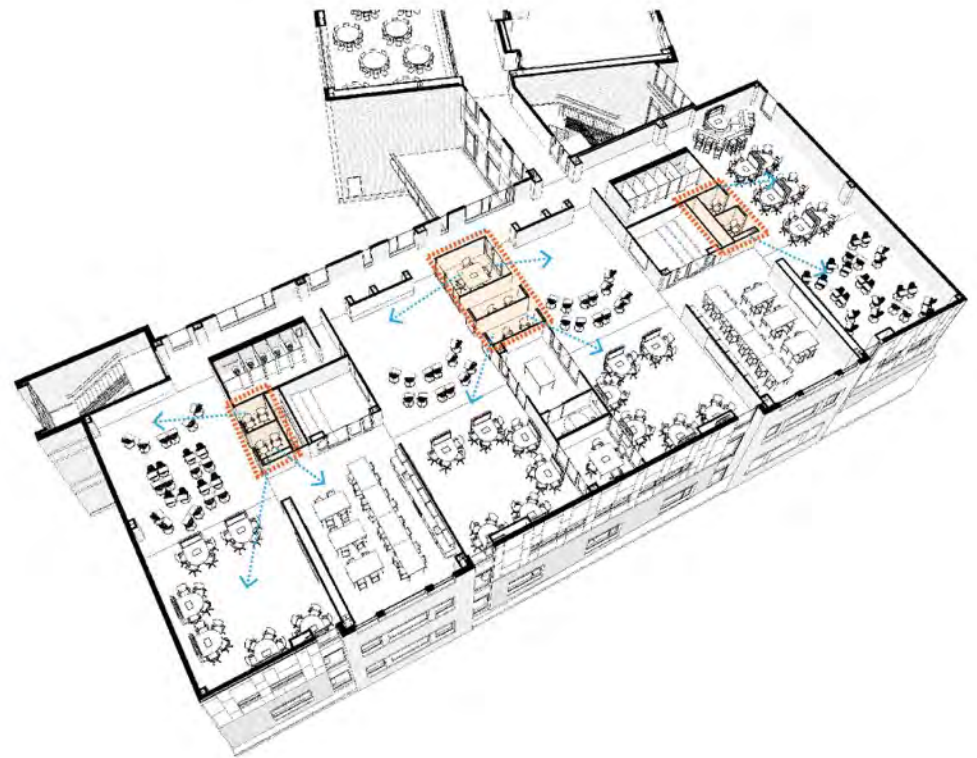
**EXCHANGE** **LITTLE**  
DIVERSIFIED ARCHITECTURAL CONSULTING

# *TYPES OF LEARNING: THINK*

An independent learner is able to make personal choices and carry out an appropriate plan of action.



CRITICAL THINKING /  
RESEARCH SKILLS  
1 ON 1 TUTORING  
SKYPE LAB  
FOREIGN LANGUAGE LAB  
RECORDING STUDIO



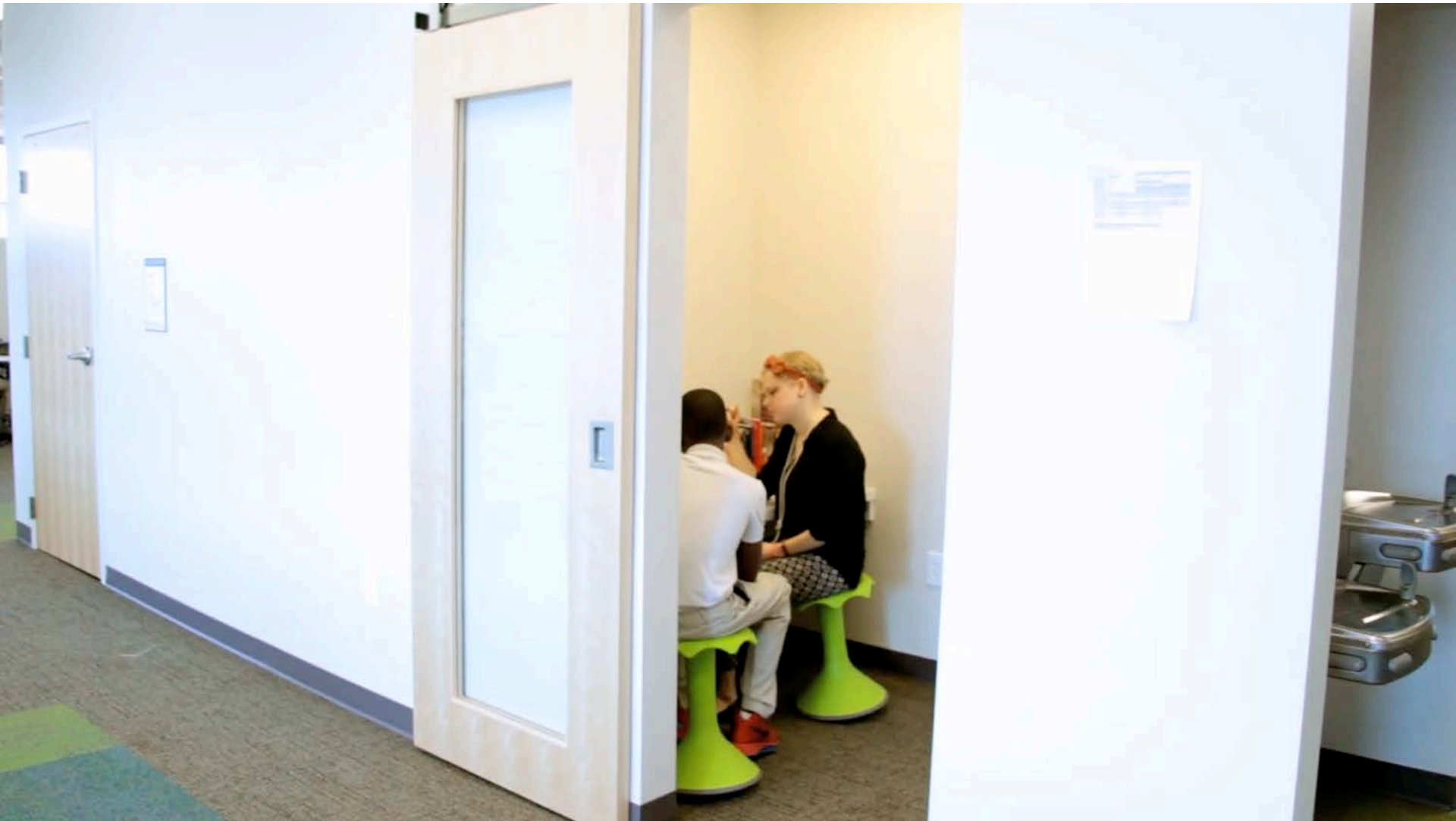




*RESTORATIVE SPACE:  
INDEPENDENT LEARNING*

**LITTLE**  
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An effective environment is designed so even the youngest of children can become independent.



typologies of  
**LEARNING-**  
*space*



**THINK**



**CREATE**



**DISCOVER**



**IMPART**



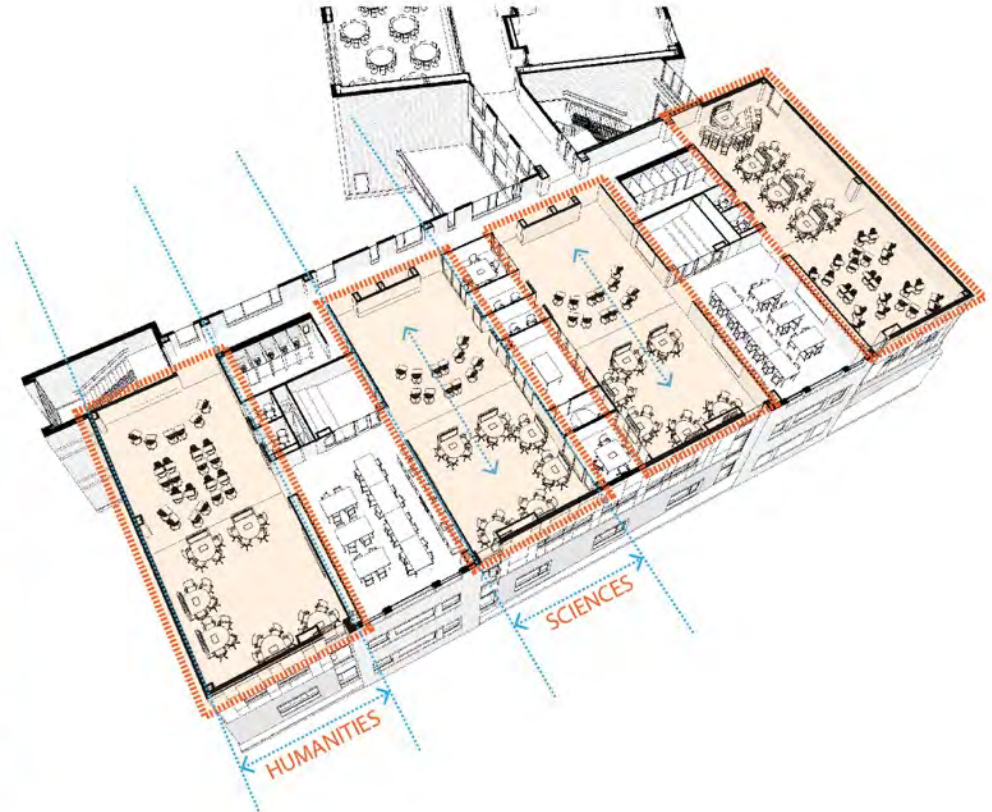
**EXCHANGE** **LITTLE**  
DIFFERENTIATED ARCHITECTURAL CONSULTING



# TYOLOGIES OF LEARNING: CREATE



COLLABORATIVE TEACHING  
TEAMWORK  
PROJECT BASED LEARNING  
COMMUNICATION SKILLS  
DISTANCE LEARNING  
GLOBAL CULTURES  
LANGUAGES



*"I love this environment because I can move my students from space to space, we don't have to stay in one area, so depending on what we're working on we can work as a whole group, work individually or send them to areas to work as small groups. We can also use the Impart room for presentations, show a video or ask questions and talk. I love the fact that I can move the students through each of the learning environments." Julie Schiel (First Grade)*





*CROSS REFERENCING DATA :  
LEARNING VS MEMORIZATION*









*PROJECT & PROBLEM-BASED LEARNING :  
INTERCONNECTED LEARNING :*

Project-based learning (PBL) provides a powerful opportunity for students to reflect on **who they want to be and what decisions they want to make.**



Source: Edutopia “3 PBL Practices to Empower Students”

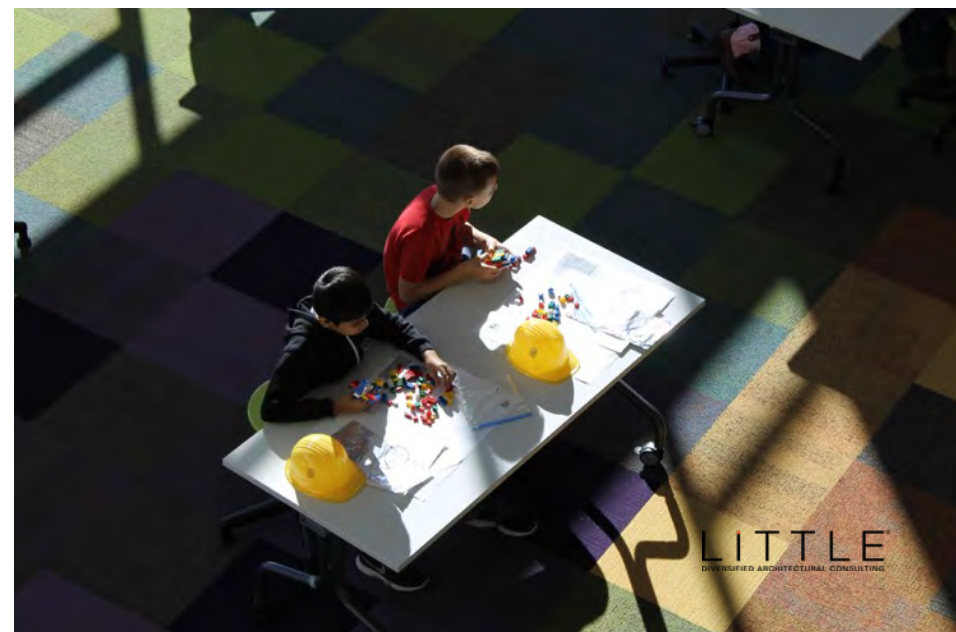
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## PROJECT BASED LEARNING @ INVEST

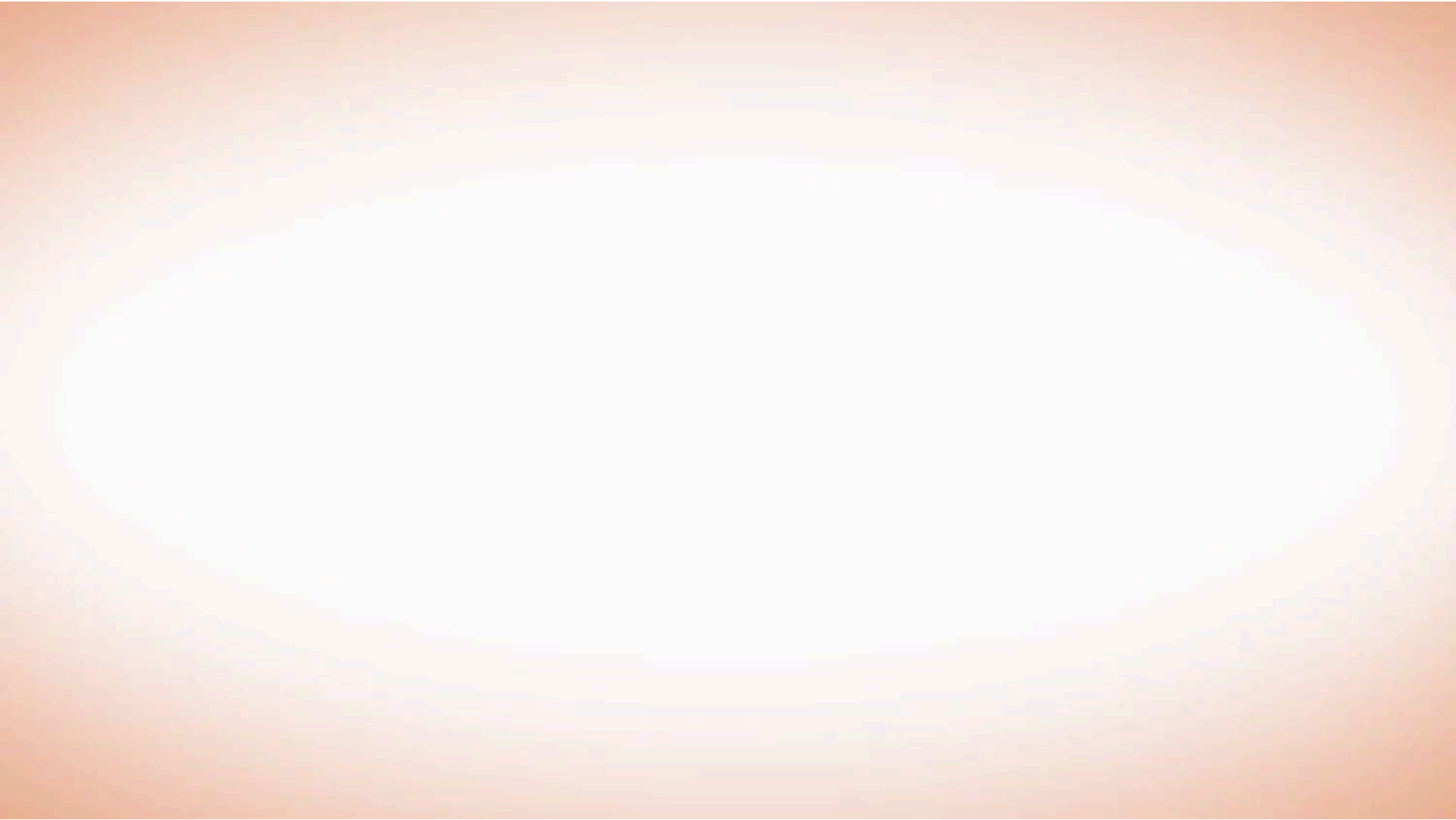


Some of the experiences that are particularly powerful for integrated learning and building connections are learning centers, thematic episodes, and projects





## COLLABORATION @ INVEST COLLEGIATE



typologies of  
**LEARNING-**  
*space*



**THINK**



**CREATE**



**DISCOVER**



**IMPART**



**EXCHANGE** **LITTLE**  
DIVERSIFIED ARCHITECTURAL CONSULTING

## DISCOVER-SCAPE

# A Space for Hands On Investigative Learning



ACTIVE LEARNING :  
SOMATOSENSORY LEARNING



“More complex  
Cognition (student  
Active Learning)  
increases memory  
retention”

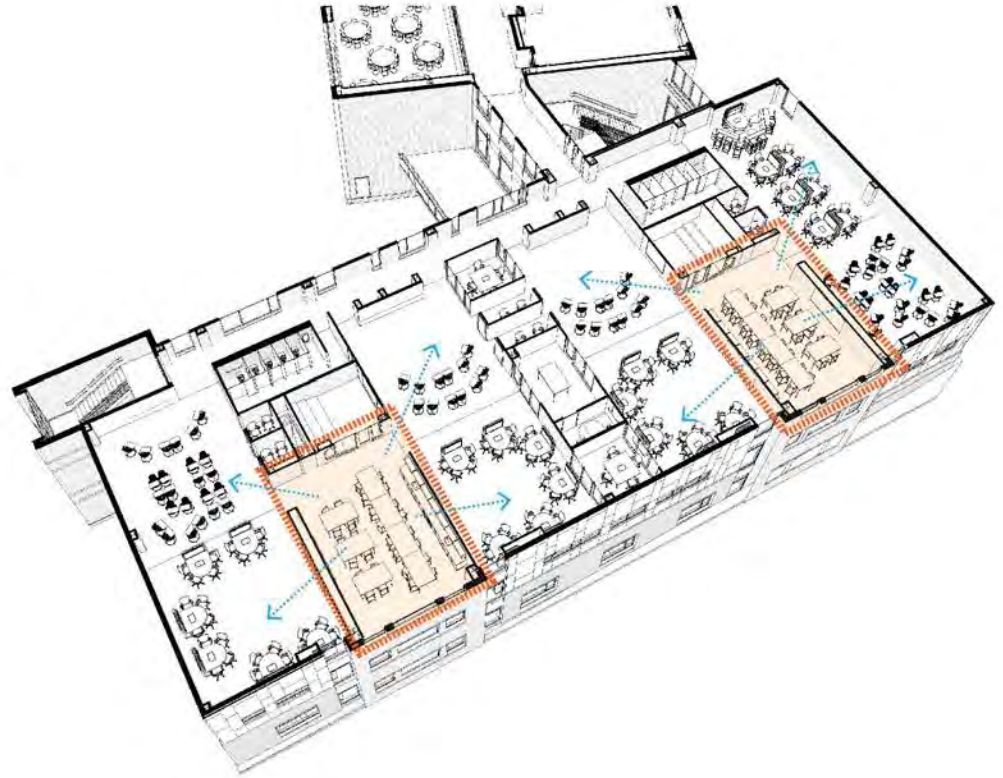
- Judy Willis



# TYPOLOGIES OF LEARNING: *DISCOVER*



CREATIVE THINKING  
RIGHT BRAIN SKILLS  
ACTIVE LEARNING  
MAKER LABS  
INQUIRY-BASED LEARNING  
INTERDISCIPLINARITY









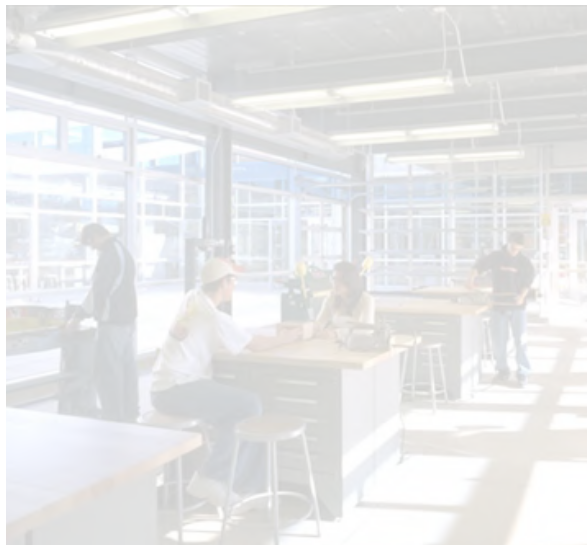
typologies of  
**LEARNING-**  
*space*



**THINK**



**CREATE**



**DISCOVER**



**IMPART**

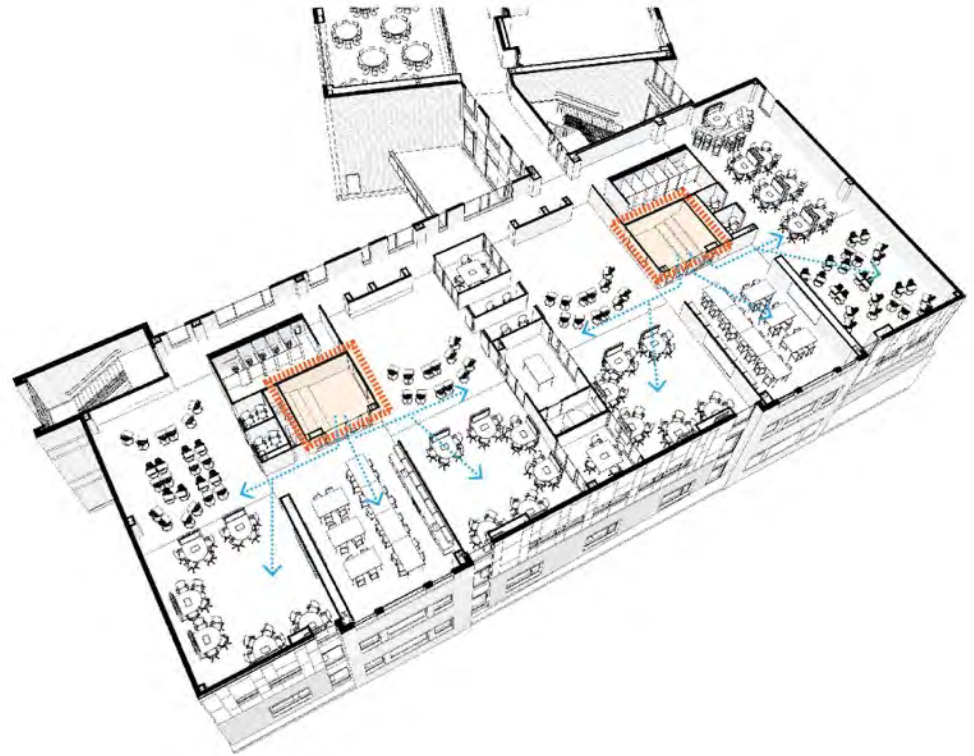


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# TYPOLOGIES OF LEARNING: IMPART



AUDITORY SKILLS /  
PRESENTATION SKILLS  
COMMUNICATION  
SKYPE LAB



*"We can be inclusive, be in small groups, be in a large group. We can start off in one place and move to the next. I can close off a room to read a story, then take that story into the Discovery room and make that story come to life, being as loud and as involved with the kids as needed. I can teach simultaneously with other teachers and give them the opportunities to learn from other teachers as well." Jacqueline Hayes (Kindergarten)*







“Smaller spaces help to  
focus attention for higher  
performance on analytical  
tasks.”

John Kounios &  
Mark Beeman



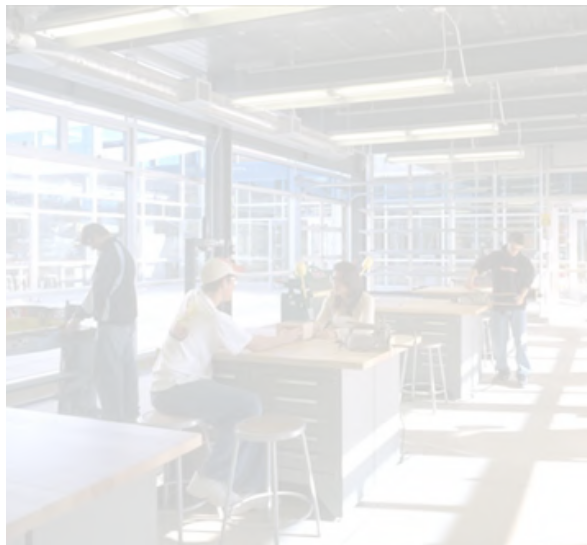
typologies of  
**LEARNING-**  
*space*



**THINK**



**CREATE**



**DISCOVER**



**IMPART**



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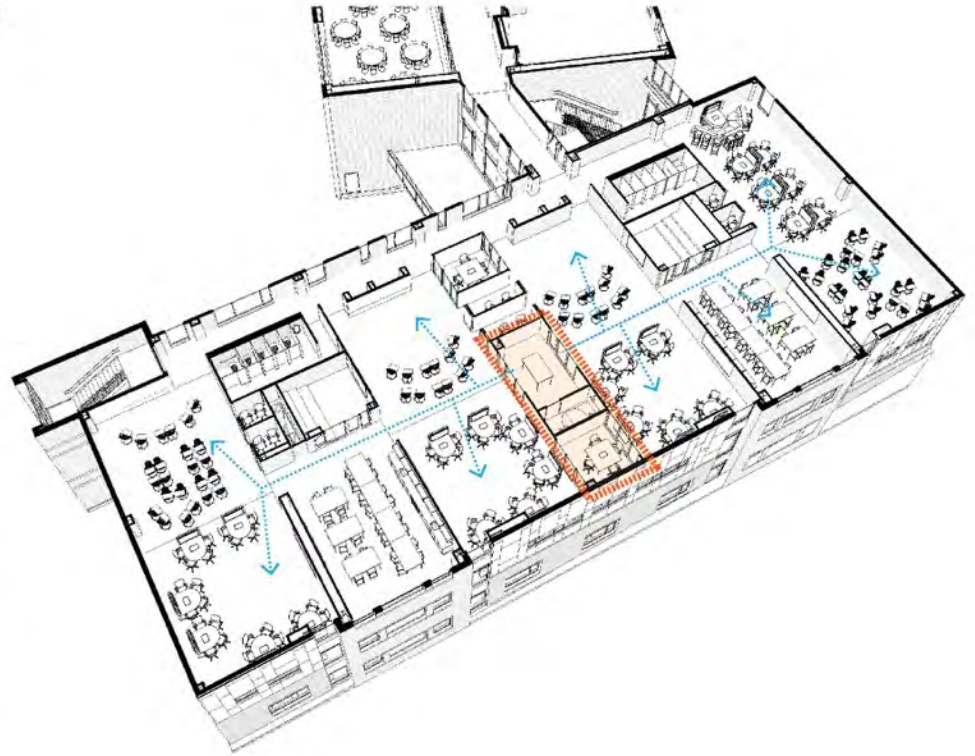
# TYOLOGIES OF LEARNING: EXCHANGE



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



*"I now have more spaces that I ever thought possible to teach in. I can simultaneously teach a lecture, while right around the corner having a lab class taking place. I can also have my advanced students in the "think" rooms, so I can essentially monitor and help students in three places at one time."*  
Neil Leonard (6th/7th Middle School Science)





# TYPOLOGIES OF LEARNING: EXCHANGE



# *TREND: ACTIVE DESIGN*



# *TREND: ACTIVE DESIGN*



In the classroom, the more ways the material to be learned is introduced to the brain and reviewed, the more dendrite pathways of access will be created.



“WE KNOW EXERCISE FUELS THE BRAIN WITH OXYGEN, BUT IT ALSO FEEDS IT **NEUROTROPINS** (HIGH-NUTRIENT CHEMICAL “PACKAGES”) TO INCREASE THE NUMBER OF CONNECTIONS BETWEEN NEURONS.”

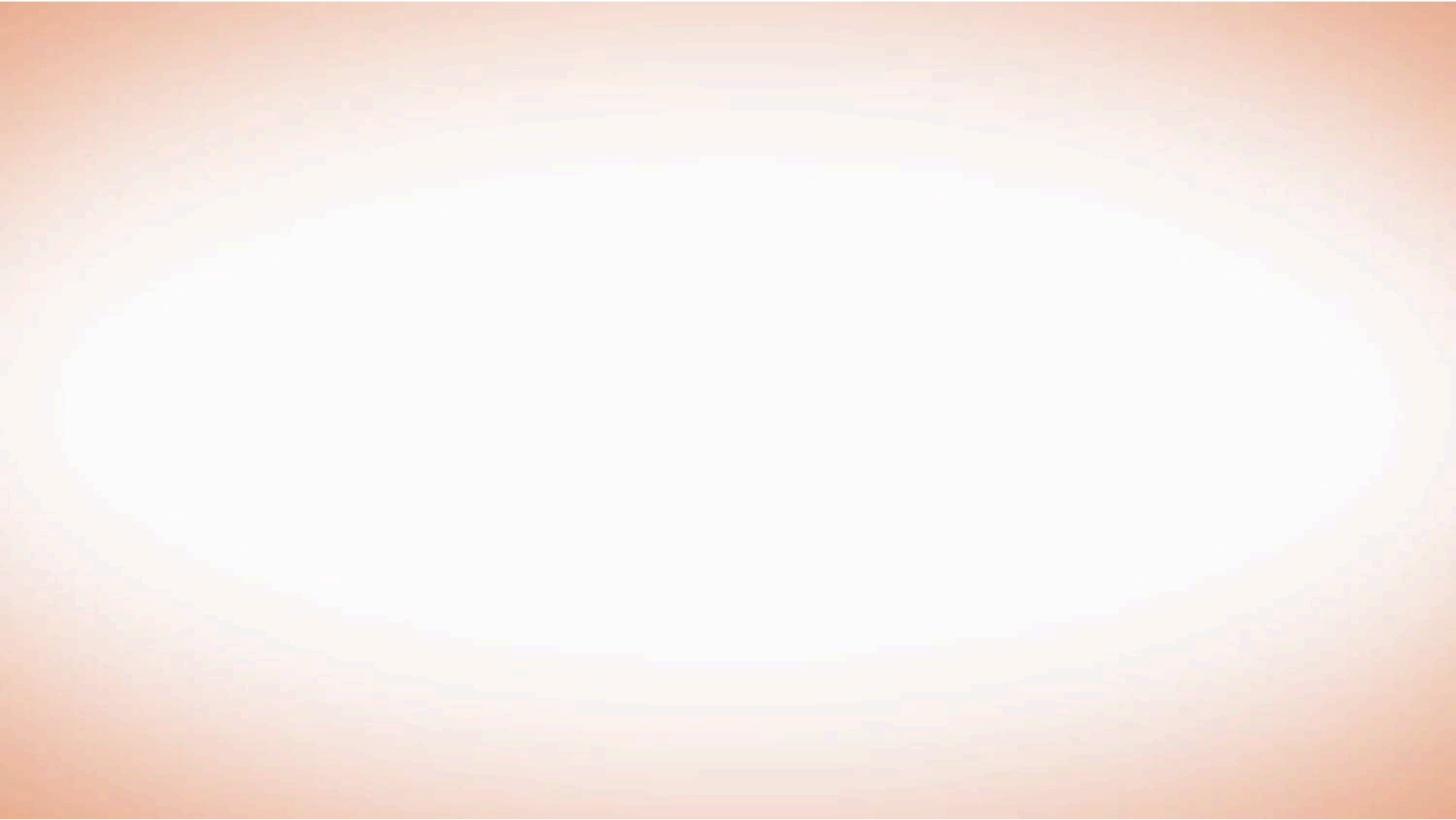


“Simple biology supports an obvious link between movement and learning. Oxygen is essential for brain function, and **enhanced blood flow increases the amount of oxygen transported to the brain**. Physical activity is a reliable way to increase blood flow, and hence oxygen, to the brain.”

Source: <http://www.ascd.org/publications/books/104013/chapters/Movement-and-Learning.aspx>

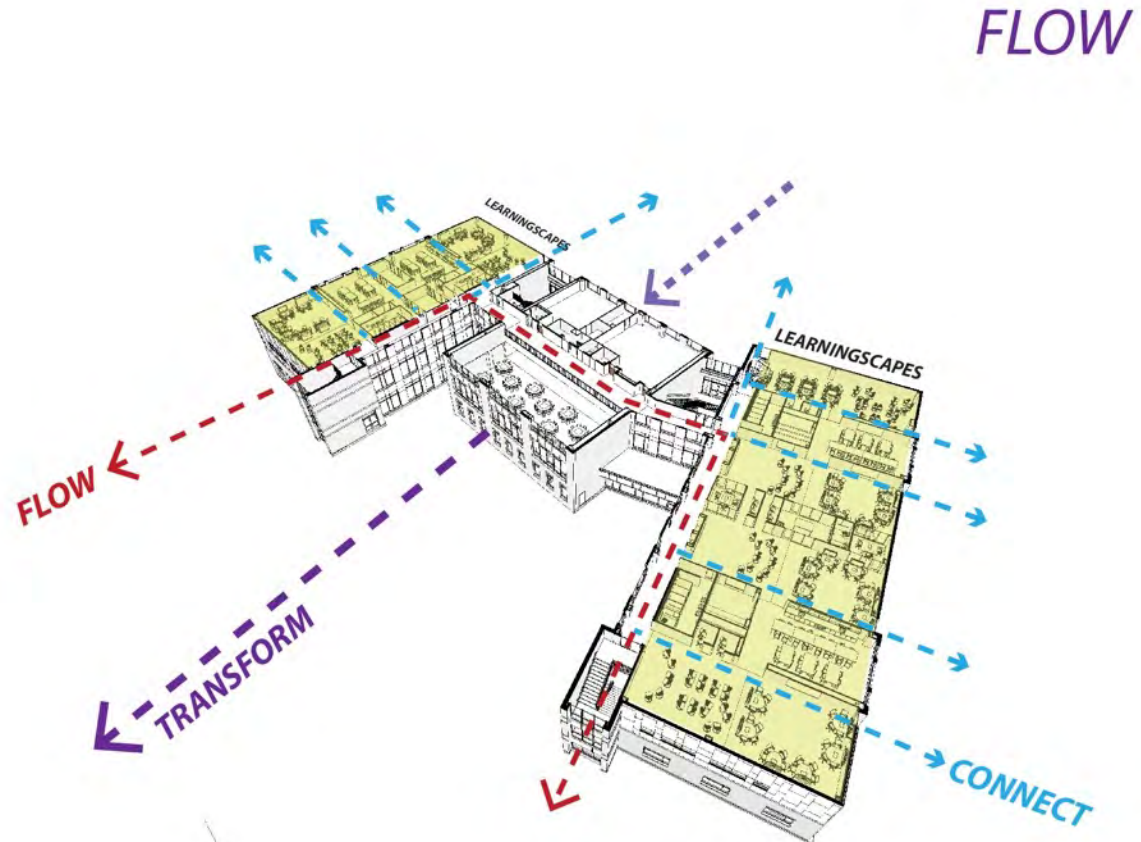


LITTLE  
BY THE SEA ARCHITECTURAL, INC.





# TREND: INTUITIVE DESIGN



MOVEMENT & VISUAL EXPERIENCE DIAGRAM



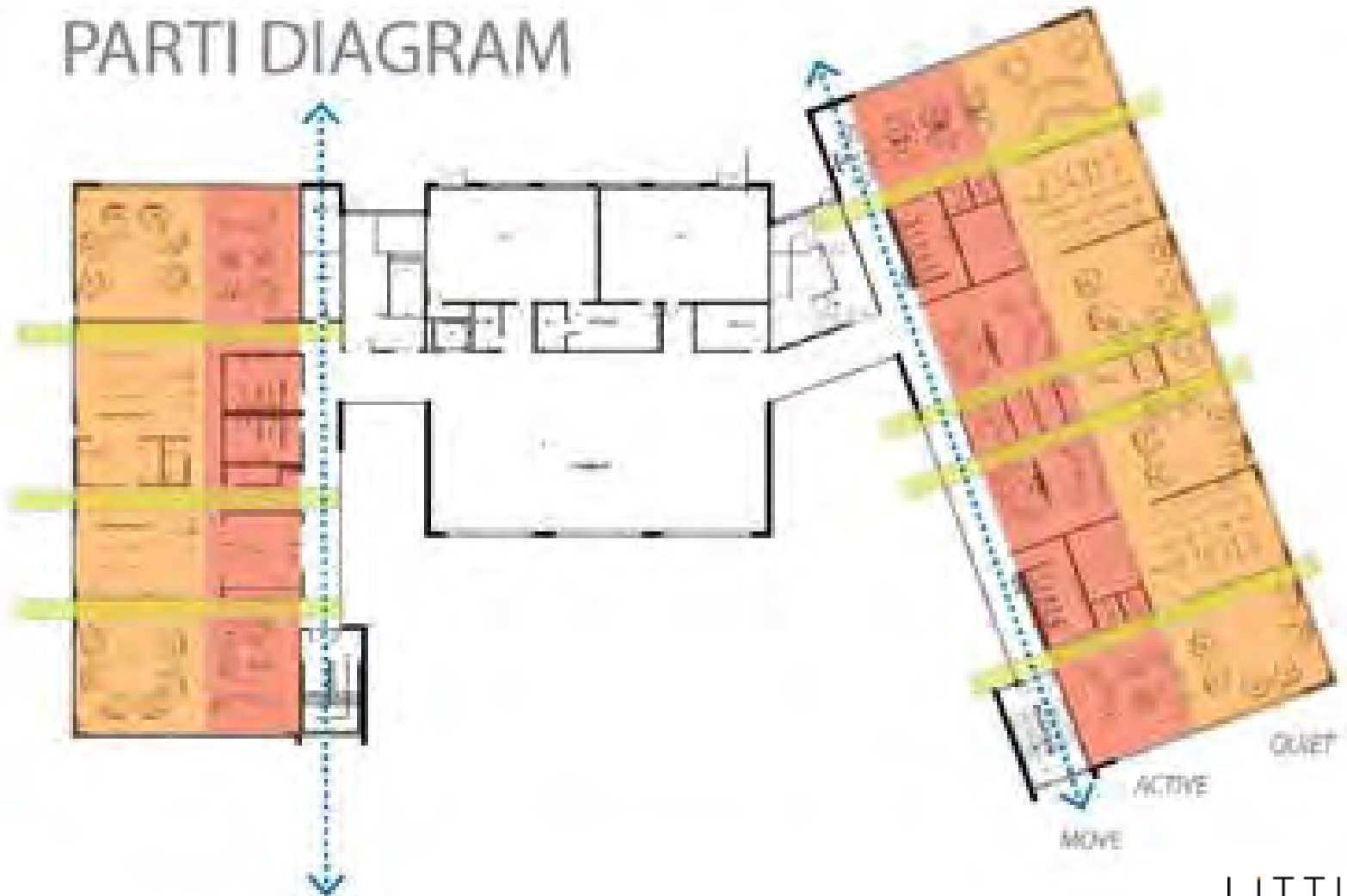
# *TREND: INTUITIVE DESIGN*





# *TREND: NATURAL VIEWS*

## PARTI DIAGRAM

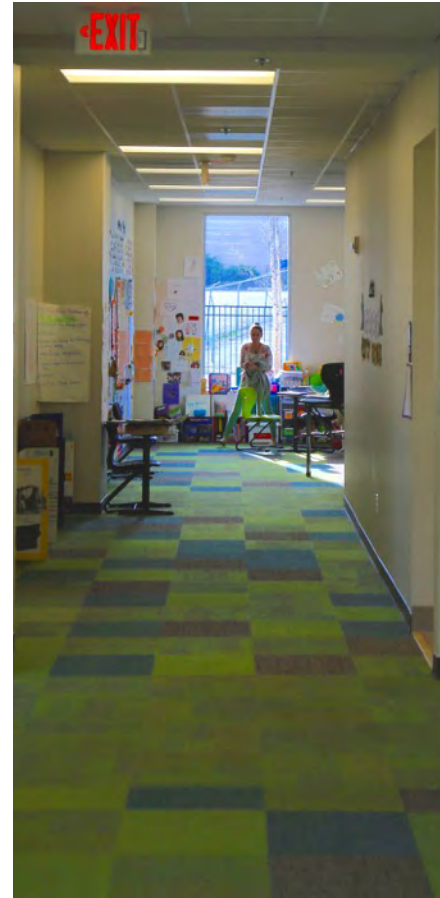
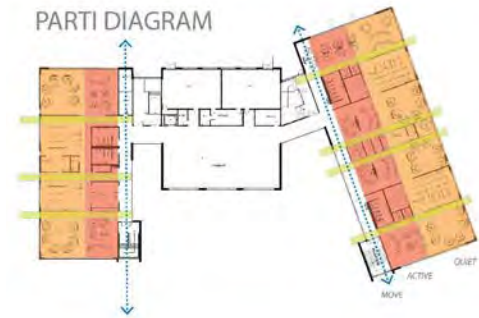




## *TREND: NATURAL VIEWS*



# TREND: NATURAL VIEWS





# *TREND: NATURAL VIEWS*





# *TREND: NATURAL VIEWS*



## **POLL:**

*Outside of curriculum, in your opinion  
which of the following has the biggest*

**IMPACT ON STUDENT  
SUCCESS?**







A background network diagram consisting of teal circles connected by lines. The circles contain the names of various academic disciplines: Law, Geography, Psychology, Physics, Architecture, Literature, History, Linguistics, Sociology, Anthropology, Biology, Mathematics, and Poetry. The central text 'THANK YOU!' is overlaid on this network.

# THANK YOU!

---

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