



Educating the Whole Child

Intersecting Pedagogy and
Architecture
to Foster
Sense of Belonging

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Presentation Chapters

1. ProSocial Learning Ecosystem™
2. Humanizing Learning within the Ecosystem
3. Humanizing the Learning Environment
4. Learner Sense of Belonging

Presentation Chapter 1

ProSocial Learning Ecosystem™



Instructional Tool

A ProSocial Learning Ecosystem™ is a social community of learners (students and adults) interacting together and with their environment.

- Social connection
- Acceptance and being liked
- Caring, kind, helpful behaviors
- Support from others

At the core = Sense of Belonging



How many of you?

Celebrate memorizing facts?

Not a ProSocial Learning Ecosystem™

ProSocial Learning Ecosystem™

Same kids – same school – one year later

This year

- Partners in learning
- Sense of Belonging
- Social connections dominate our “real” lives – now our school lives!

Integrating and aligning
academic, social, and
emotional goals



ProSocial Learning Ecosystem™

Supports healthy development of our youth

Integrate and align academic, social, and emotional goals

Social and emotional competencies serve as a foundation for achieving academic goals, while academic instruction provides a ripe opportunity for teaching and practicing SEL

(CASEL)



A Peek into how we learn

Our Social Brain
Center of our social self
Social Thinking

Drives our need to connect with others

- How we remember
- How we learn

Cultivating trusting social relationships turns out to be what our social brains were designed to do.

~ Matthew Lieberman, social neuroscientist





Teach, Practice, Learn

- Explore with interesting materials
- Ask questions, create, think
- Early reading, writing and math
- Early math and science
- Social and emotional development
- Physical development

A ProSocial Learning Ecosystem™

Cognitive, Social, Emotional Skill Development

Learn and Practice every day



Apply previous, learn new, practice all



Presentation Chapter 2

Humanizing Learning within the Ecosystem

“Sticky Learning”



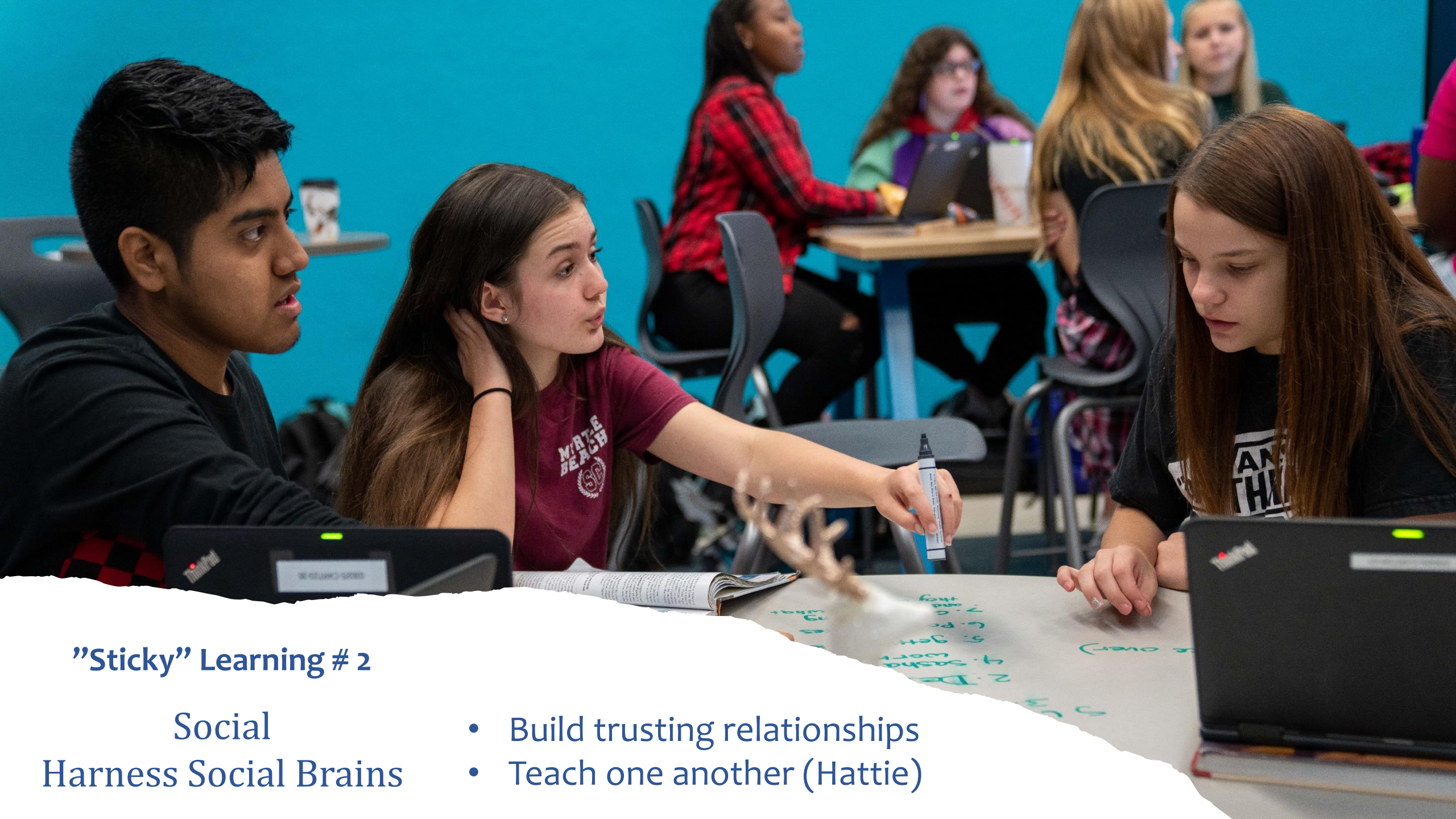
The social brain at work encodes stronger memories.



"Sticky" Learning # 1

Personally Relevant

Emotional Connection: Tasks that are meaningful and relevant and that we care about



"Sticky" Learning # 2

Social
Harness Social Brains

- Build trusting relationships
- Teach one another (Hattie)

”Sticky” Learning # 3

Experiential

Helps learning move to long-term memory (amygdala)

Strengthens synapses for stronger brain pathways



”Sticky” Learning # 4

Challenging

At the edge of mastery -
Not too easy – not too hard

We know we figure this
out together!



”Sticky” Learning # 5

Retrieval

Not tests....

Helps build stronger,
more hard-wired
connections in the
brain.

Most powerful way to
increase
neuroplasticity.



A ProSocial Learning Ecosystem™



"Sticky" Learning # 6

Agency

Embrace a learner-driven journey to independent, questioning thinkers
Greater engagement and joy when learners "own" their learning



“Sticky” Learning

1. Personally Relevant
2. Social
3. Experiential
4. Challenging
5. Retrieval
6. Agency

“Memory is the residue of experience.”

--Melina Uncapher, neuroscientist
Chief of Research and Development
EF+Math Program

The social brain encodes stronger memories.

Presentation Chapter 3

Humanizing the Learning Environment



Key architectural points

Space Design Matters

- **Experiential Quality**
 - Spaces we want to be in
- **Spatial Inclusivity**
 - Addressing a broad variety of learning opportunities
- **Humanizing the Learning Environment**
 - Biophilic design significance
- **Relationship of space design and activities**
 - Tapestry of Spatial Choices

Experiential Quality

Spaces we simply want to be in...



Open Core with flexibility with variety



Quieter edges

Environments send messages: Activity Expectations

The environment is never neutral to learning...



School spaces can't be just places
that provide for *being there*.

Space needs to support the *doing*.
Instructional Tool



Environments send messages

Brain-body cognition in reacting to environment

Open Core



Edges





The Learning “Plaza”

The “Pulse of Learning” within the open core of the student-centered space
Informal socialization and cognitive development around the edges

Spatial Inclusivity

Modern Classrooms as Small Plazas

Informal
tables

Cozy Edge
Seating

Instructional activity
in the Center



Informal
tables

A “garden”
seat

Informal
Collaboration
Area



Spatial Inclusivity: Common areas as Small Plazas

Informal seating

Performance
in the Center



Informal tables

A “garden”
seat

Instructional activity
in the Center

Visible
thinking
collaboration



A Continuous Thread of **Spaces**

Integrating cognitive, social, emotional learning **experiences**



Neighborhood learning
commons



Classroom



Secluded small
group

A Continuous Thread of **Spaces** outside of classrooms

Integrating cognitive, social, emotional learning **experiences**



Schoolwide learning commons
Edges, informal interaction



Schoolwide learning commons
Plaza core interactions

A Continuous Thread of Spaces outside of classrooms

Integrating cognitive, social, emotional learning **experiences**



Schoolwide learning commons
Indoors



Schoolwide learning commons
Outdoors

”Sticky” Learning Humanized Place

**Make Learning Spaces Comfy
with variety, agility, choice**

Space is integral to the formation of memories. Looking at others is an invaluable natural aspect to engage social brains. Eye gaze, seating, tables

Who and what should I pay attention to that affects my survival in this tribe and this place?

“Mentalizing”

Humanizing the Learning Environment: The calming Presence of Nature



Humanizing the Environment

Proven benefits of Biophilic Design

Medical Field

Number of studies including the recent: “The effects of Natural Daylight on Length of Hospital Stay 2018 by Environ Health Insights”

- Faster and better patients' recovery (less medications needed)
- Shorter stays in hospitals
- Measurable financial benefits

Retail Commercial Field

“Daylight and Retail Sales”, the Heschong Mahone Group

- Walmart findings of increased sales at underneath skylights in early 90s
- Measurable financial benefits

Calming presence of Biophilic Design – Dining Commons



Four biophilic design principles affect student behavior

Implications to learning of humanized dining spaces

The Plaza

The Plaza central

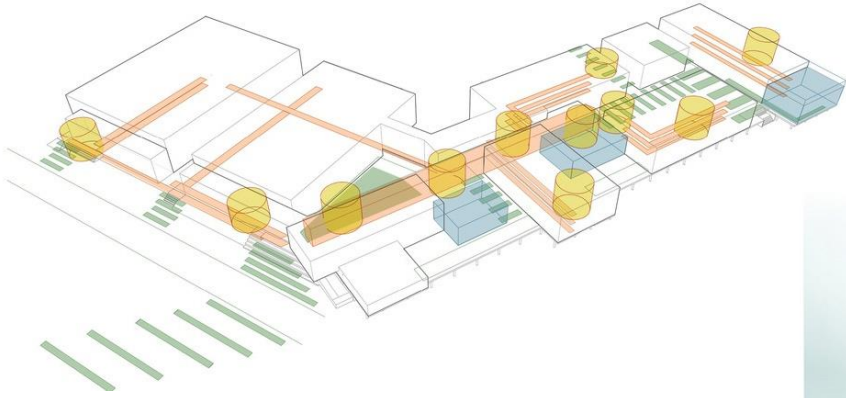


The Plaza edges

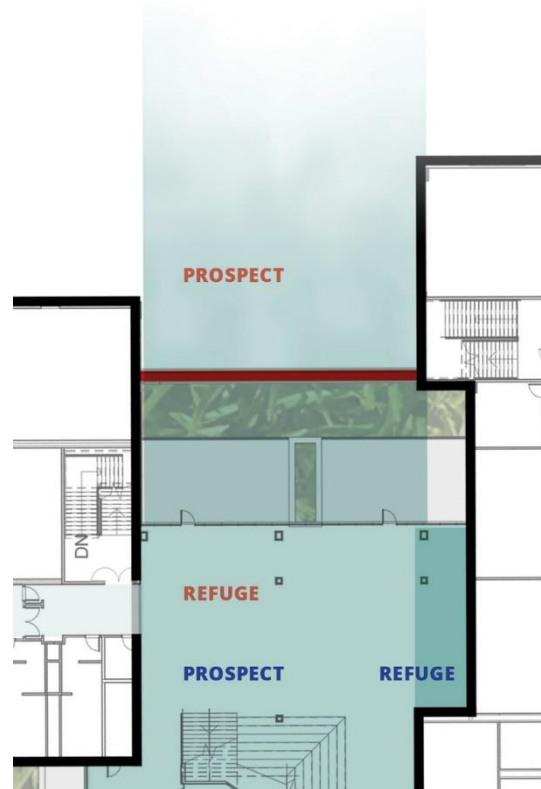


Humanizing Space:

Prospect and Refuge Biophilic Design



Space choices of
varied scales



Humanizing the Learning Environment

Example 1 - Measurable impact of Biophilic Design

- Library use increased by 69% in the first year compared to the library in the old building
- Staff meetings moved to library from a Starbucks in town



Humanizing the Learning Environment

Example 2 - Measurable impact of Biophilic Design

- Library designed to house broad community meetings – A “town living room”
- School board meetings moved to library because of the space quality



Tapestry of Spatial Choices

Accommodating diverse learners and learning experiences



Flurry of activity in the
Open Core



Quieter
Edges

“Every good school needs to have a diverse tapestry of spatial choices”

Formal social interaction

Informal social interaction

Inquiry

Make-build

Retrieve

Restore mental and emotional balance

Break – exercise, enliven, tranquilize brain



Presentation Chapter 4

Sense of Belonging in a Social Community of Learners



Educating the Whole Child

Belonging is a fundamental human need.

Integration of cognitive, social, and emotional growth and development.

Sense of Belonging



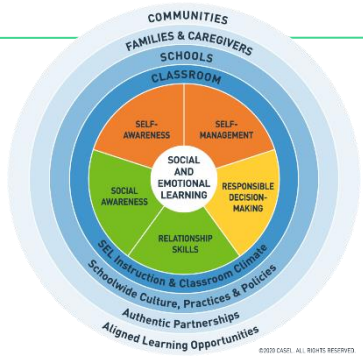
Feeling **accepted and liked** by their “tribe” of peers, feeling **connected** to others, and feeling like a **member** of a community.

(Baumeister and Leary, 1995; Maslow, 1943)

- Plays a role in student engagement.
- Helps students get along and work well with peers and teachers.

CASEL





THE CASEL 5

Five broad, interrelated areas of competence



self-awareness

Understand one's own emotions, thoughts, and values and how they influence behavior across contexts.



self-management

Manage one's emotions, thoughts, and behaviors in different situations and to achieve goals and aspirations.



social awareness

Understand the perspectives of and empathize with others, including those from diverse backgrounds.



relationship skills

Establish and maintain healthy, supportive relationships and effectively navigate settings with diverse individuals/groups.



responsible decision-making

Make caring and constructive choices about personal behavior and social interactions across diverse situations.



Social and emotional competencies serve as a foundation for achieving academic goals, while academic instruction provides a ripe opportunity for teaching and practicing SEL. ~ CASEL

Adapted from the Collaborative for Academic, Social, and Emotional Learning and used with permission.

Learning is more than developing academic skills... Interconnect Cognitive, Social, and Emotional Skills

”Schools must strive for holistic student development.” Schleicher, OECD



Some of the skills measured in the study - curiosity, emotional control, and cooperation - have an implicit positive impact on academic performance.

--**Andreas Schleicher**, OECD Directorate for Education and Skills - PISA Director

Beyond Academic Learning: First Results from the Survey of Social and Emotional Skills

OECD - Organization for Economic Cooperation and Development

Developing SEL skills to further *social relationships* and a *sense of belonging* is complimentary to boosting cognitive skills.





“Sticky” Learning

helps develop student sense of
belonging to school

- Harness social brains in learning
- Fill student days with “sticky” learning
- Teacher activated - Student driven

Developing student Sense of Belonging: Environment and Learning



Collaborative Team Inquiry



Respectful Communication



Strong Peer Relationships



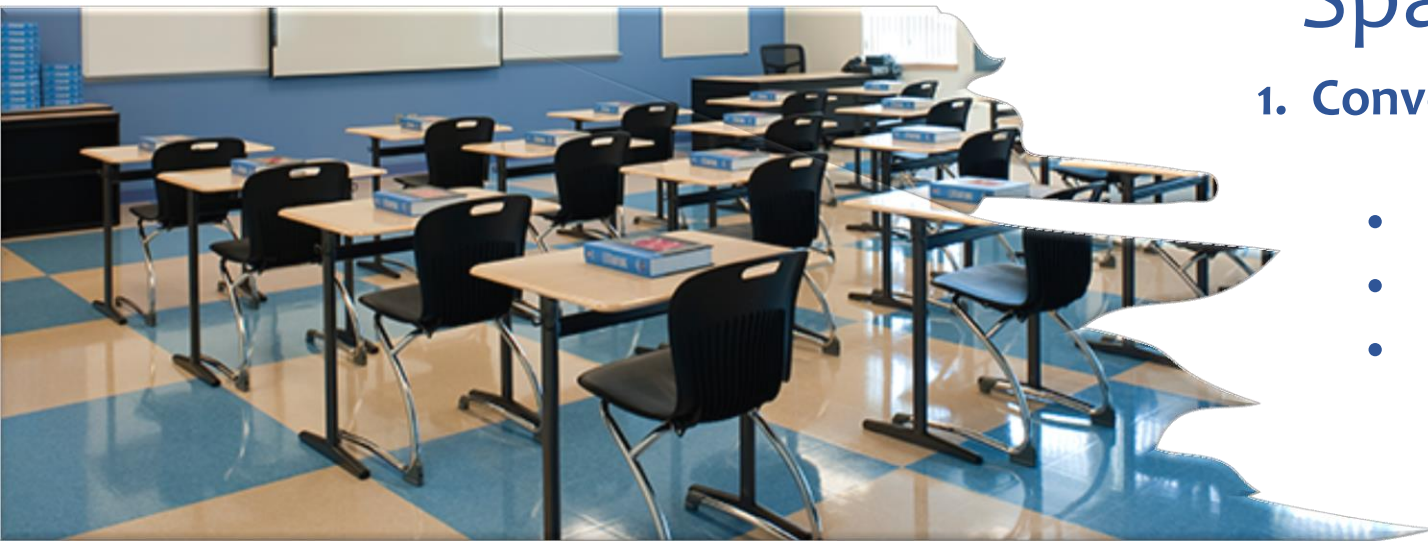
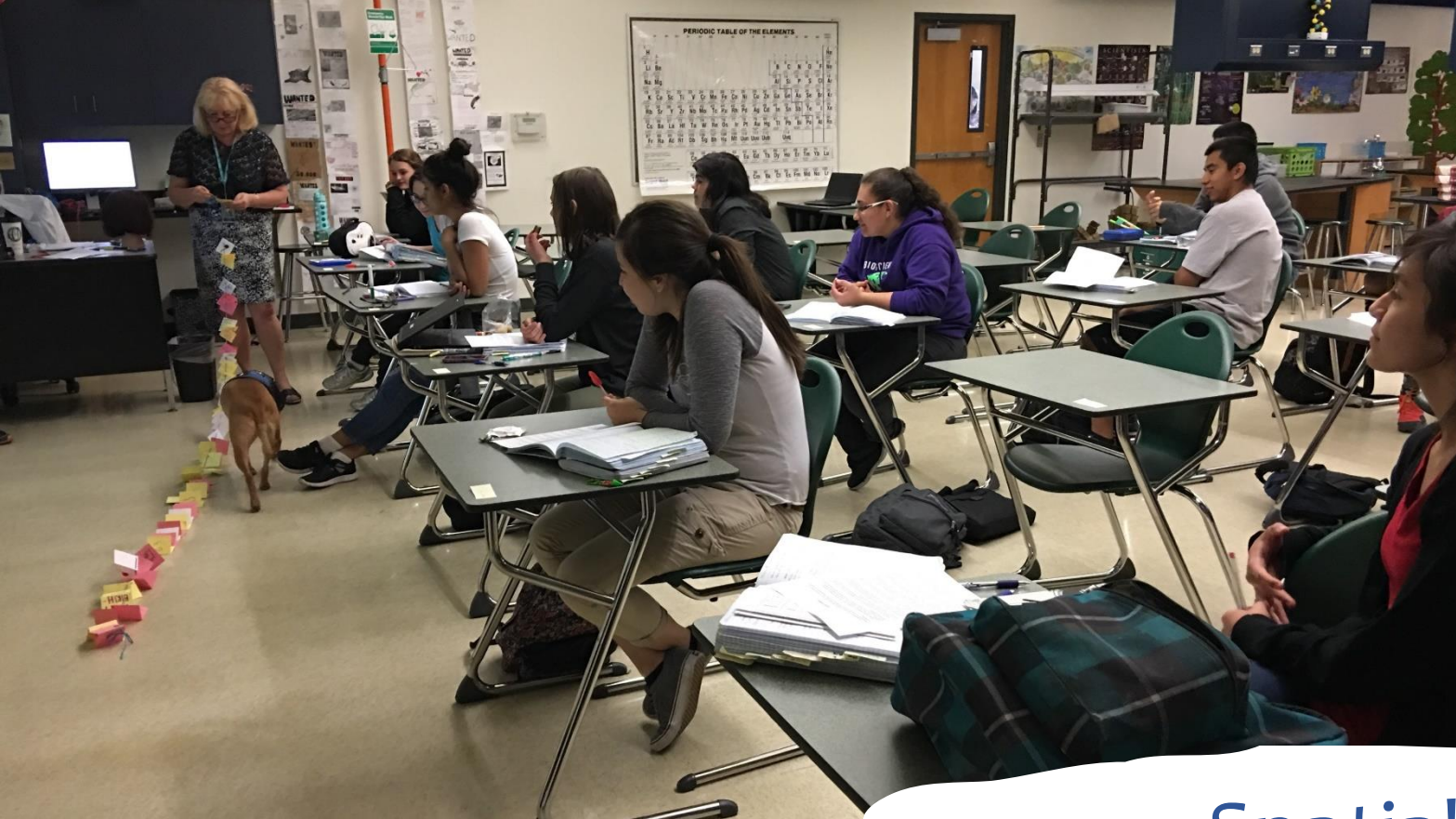
Spatial Inclusivity



Campuswide Safe Climate



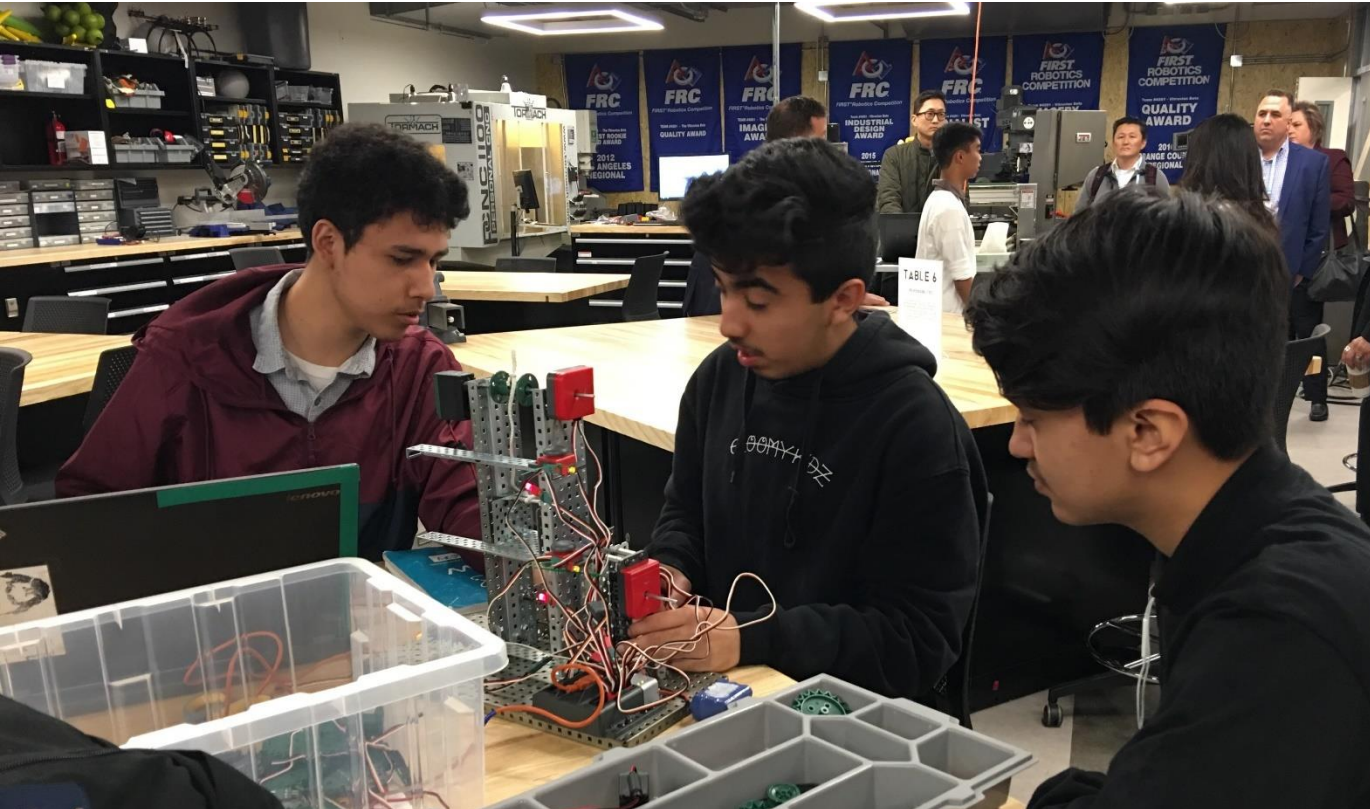
Student Agency



Spatial Fabric of a School

1. Conventional classroom

- Straight rows
- One size fits all
- Lacks choice
- Teacher-driven instruction
- Whole group learning
- One learning task for all



Spatial Fabric of a School

2. Modern classroom social community of learners

Environment:
The ProSocial
Plaza Core

Learning Experiences:

- Teams
- Teacher activated –
Student directed



Spatial Fabric of a School

3. Modern classroom + adjacent community commons

Environment:

The ProSocial Plaza
Learning at the edges

Learning:

- Scaffolding pre-agentic behaviors
- Increased socialization and choice



Spatial Fabric of a School

4. Campus-wide learning spaces available to every learner

Environment

The ProSocial Plaza

- Choice of how and where to learn

Learning

- Relationships flourish
- Cross-curricular projects
- Agentic – curating, discovering, presenting

A ProSocial Learning Ecosystem™

Integration of cognitive, social, and emotional growth and development

Loneliness, Individual



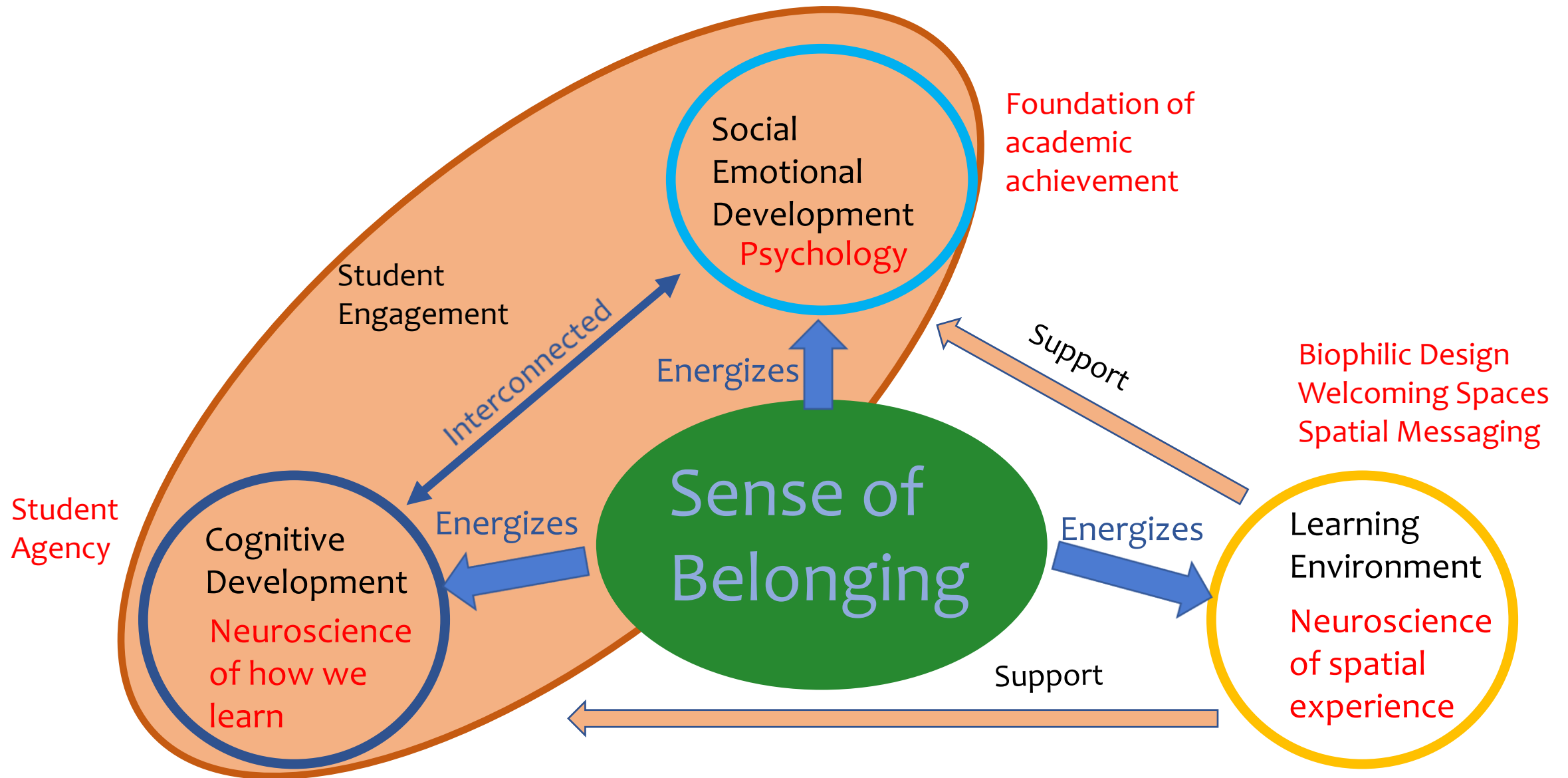
Which kind of activity fosters and improves a sense of belonging in the peer group and throughout the school?

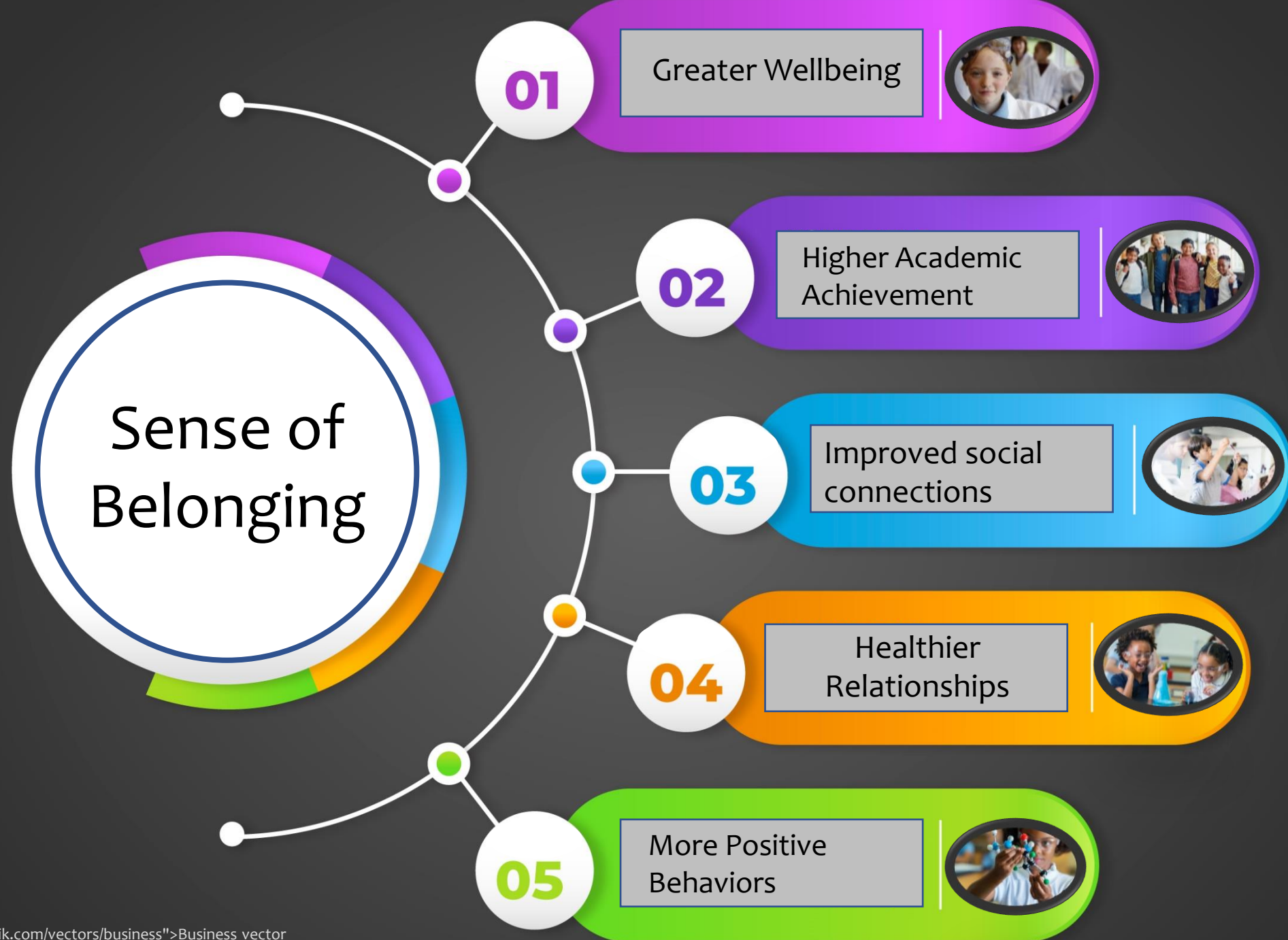
Collective thriving – teaching one another



Magic Triangle of School Influences on Student Sense of Belonging

Pedagogy, psychology and neuroscience of spatial experience







Educating the Whole Child

Intersection of
Pedagogy and
Architecture

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