



Designing a Modern School Ecosystem

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Old-School Nostalgia







1957



2018



HOW CAN WE PREPARE OUR LEARNERS FOR THE FUTURE?

OUR LEARNERS NEED MODERN LEARNING ENVIRONMENTS



Pedagogy

Antiquated

What to cut?

Classical

What to keep?

Contemporary

What to create?



Beginning in the shallow end of the pool



Three Critical Arenas for Informed Decision-Making
How are these interdependent? Simultaneous?

Classical

Contemporary

Pedagogy

Curriculum

Space

Time

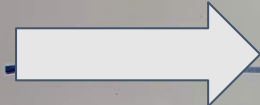
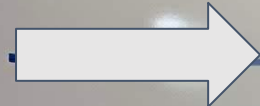
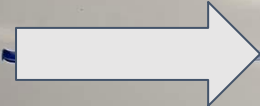
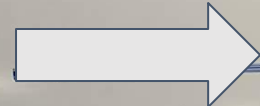
Grouping Learners

Grouping Adults

Leading

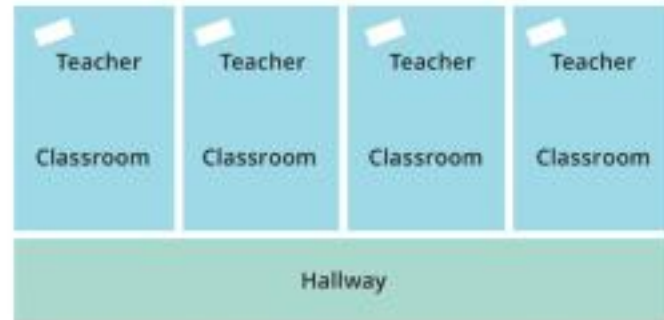
Self-navigation/
regulation

Narrative/ story



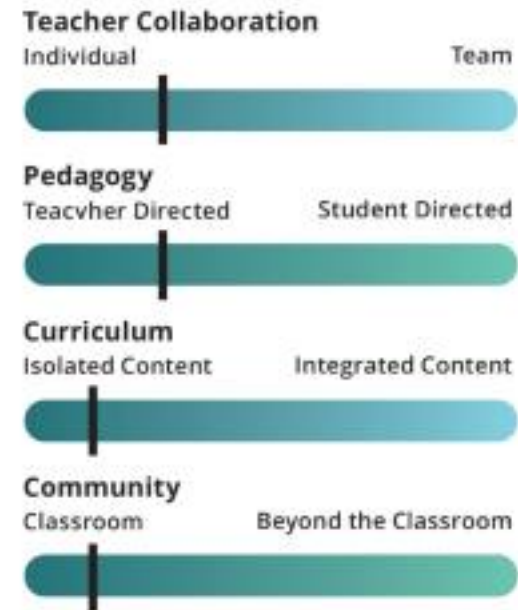
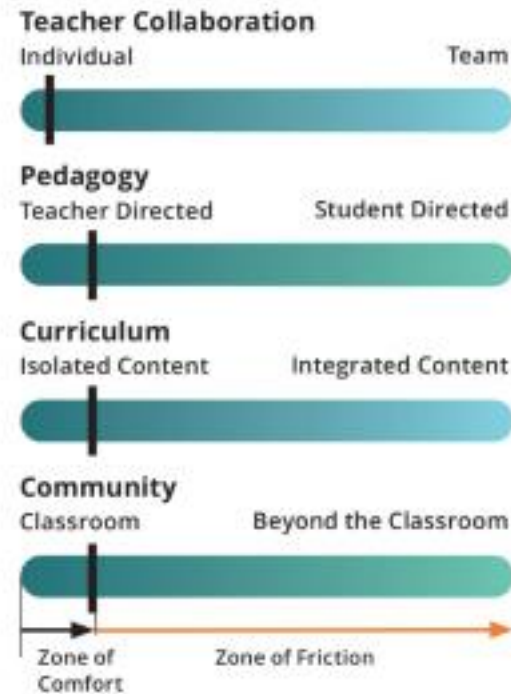
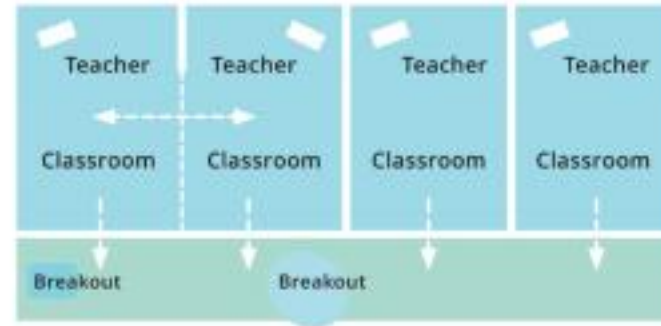
Individually Owned Rooms

Optimized for: Individualized teaching practices, traditional structures and timetable, classroom - based community, single teacher classrooms, teacher - directed learning



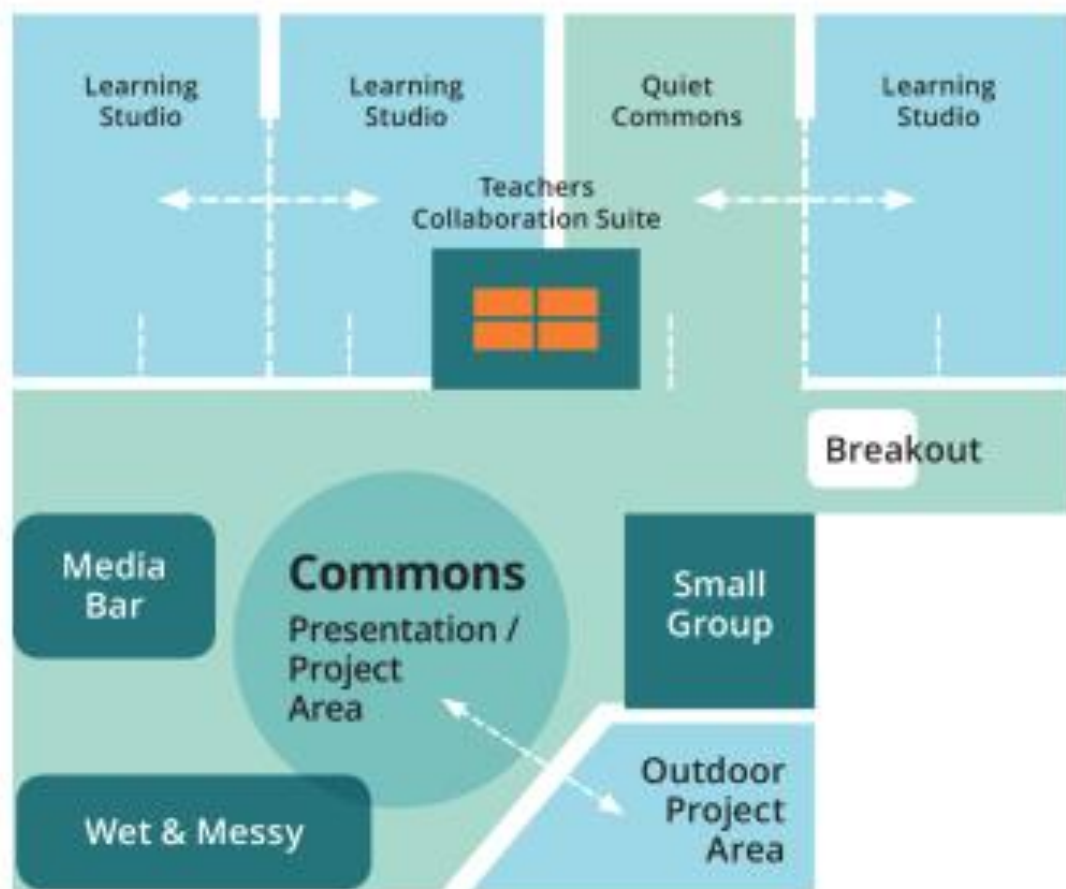
Shared in a Pair

Optimized for: Pairings within grade, department & or interdisciplinary, shared unit/lesson design, co - delivery, flexible/ dynamic groupings, more varied learning modalities, shared assessment, easier for project - based, more options for breakout



Learning Community

Optimized for: Curriculum organized around interdisciplinary themes, distributed democratic leadership, shared student responsibility, co-facilitated, cohort scheduling, highest levels of "community" and self directed learning.



Teacher Collaboration

Individual

Team



Pedagogy

Teacher Directed

Student Directed



Curriculum

Isolated Content

Integrated Content



Community

Classroom

Beyond the Classroom



Building the Structural Nest



PROGRAM STRUCTURE CONTINUUM



SPACE



TIME



GROUPING



PERSONNEL

	ANTIQUATED	CLASSICAL	CONTEMPORARY
SPACE	<ul style="list-style-type: none"> Self-contained All rooms the same 	<ul style="list-style-type: none"> Field experience Use of existing spaces for effective instructional grouping 	<ul style="list-style-type: none"> Virtual spaces 24/7 Field experience Wide range: learning spaces create new learning experiences
TIME	<ul style="list-style-type: none"> Standardized, 19th century agrarian, 13-year experience Daily schedule standardized by habit 	<ul style="list-style-type: none"> Coordinated timeframes when possible to support learners 	<ul style="list-style-type: none"> Task determines time Teachers work with students to bid for time segments over week and month for on-site
GROUPING	<ul style="list-style-type: none"> Strict grade-level grouping K–12 Classroom; no instructional grouping 	<ul style="list-style-type: none"> Some cross-grade cooperative groups Individualized Differentiated grouping 	<ul style="list-style-type: none"> Personalized on-site/virtual Field experience based on quest Multi-age based on learning progressions
PERSONNEL	<ul style="list-style-type: none"> One teacher, self-contained in isolation to match class Faculty grouped by grade/department in isolation No interschool connections 	<ul style="list-style-type: none"> Some vertical and interdisciplinary within and between buildings 	<ul style="list-style-type: none"> Teacher as multiple affiliations: Inquiry quest groups Coaching individuals Virtual/on-site direct teaching Seminar/webinar Global cyber faculty

Four Structures: SPACES PHYSICAL & VIRTUAL



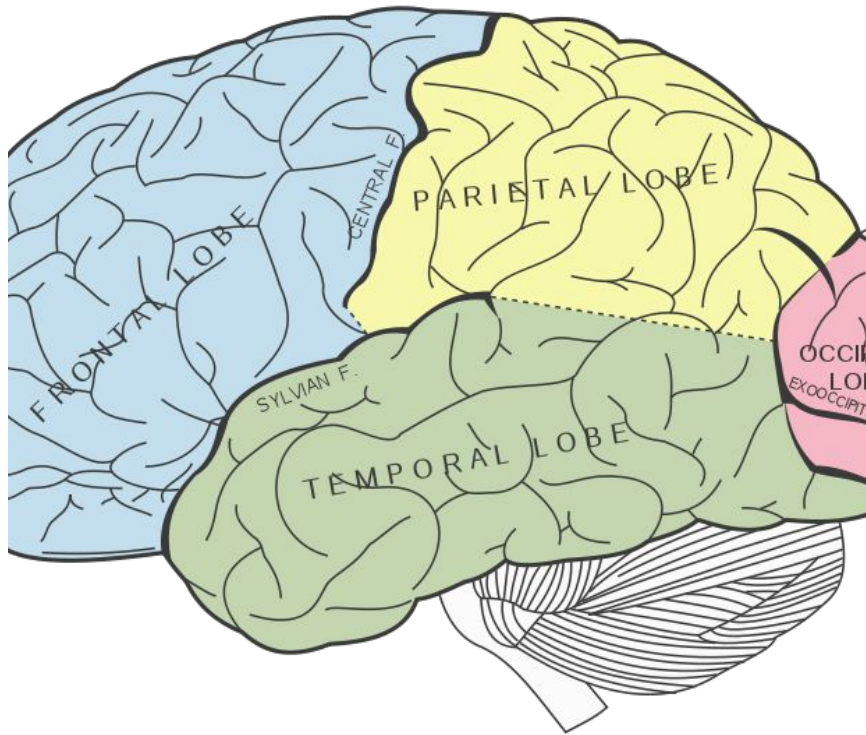
Physical Spaces

- Expansive view of school redesign and repurposing existing spaces.
- Furniture as sculpting spaces
- Outdoor spaces
- Off-campus spaces
- Learning spaces at home

Virtual Spaces

- Strategic use of virtual
- PD on innovative use of virtual

Brain Science Break



Safety of Learner	Instructional Design
<i>What safety for learner ideas am I committed to?</i>	<i>What instructional design ideas am I committed to?</i>
<ul style="list-style-type: none"> • Physical • Emotional • Different types of thinking 	<ul style="list-style-type: none"> • Direct instruction/Mini-lessons • Collaboration • Inquiry • Making/Design

Organization of Things	Use of Structure
<i>What organizational ideas am I committed to?</i>	<i>What use of structures am I committed to?</i>
<ul style="list-style-type: none"> • Commons spaces • Intentionality of access • Labeling • Individual materials 	<ul style="list-style-type: none"> • Text/visuals • Color • Furniture • Lighting





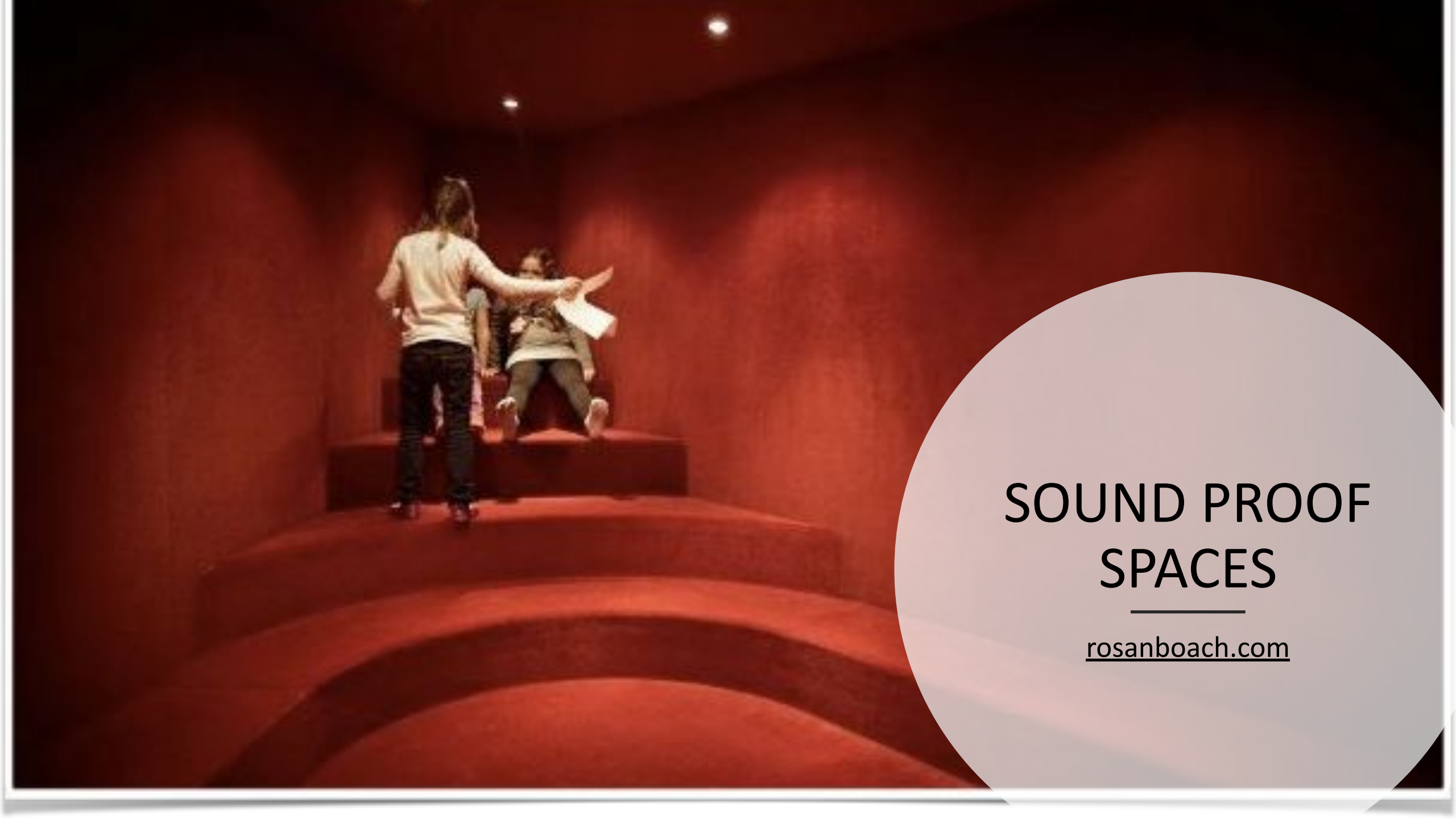
**IMAGINATIVE
SETTINGS SPARK
THE IMAGINATION**

rosanbosch.com



SPACES FOR DESIGNED INTERACTION





SOUND PROOF SPACES

rosanboach.com

Elevated spaces stimulate learning.





Modern learning environments foster a sense of purpose and a sense of belonging.



Age-based spaces for specific tasks.



SEMINAR SPACES

rosanbosch.com



CLEAN SPARE SPACES INVITE
INTERACTION



BOOK MATTERS: PRINT AND DIGITAL IN TRANSITION

MAKERSPACES



A vibrant community garden scene. In the foreground, a raised garden bed is filled with lush green leafy plants, bordered by a brick path. To the right, another raised bed contains tall, climbing plants supported by a wooden trellis structure. In the background, several people are engaged in gardening activities. One person in a red shirt stands near a tree, while others are working in various garden beds. The garden is surrounded by tall trees and a wooden fence, creating a peaceful and productive outdoor space.

OUTDOOR SPACES

Gardeners and Botanists



OUTDOOR NUMERACY GARDEN

Early Childhood



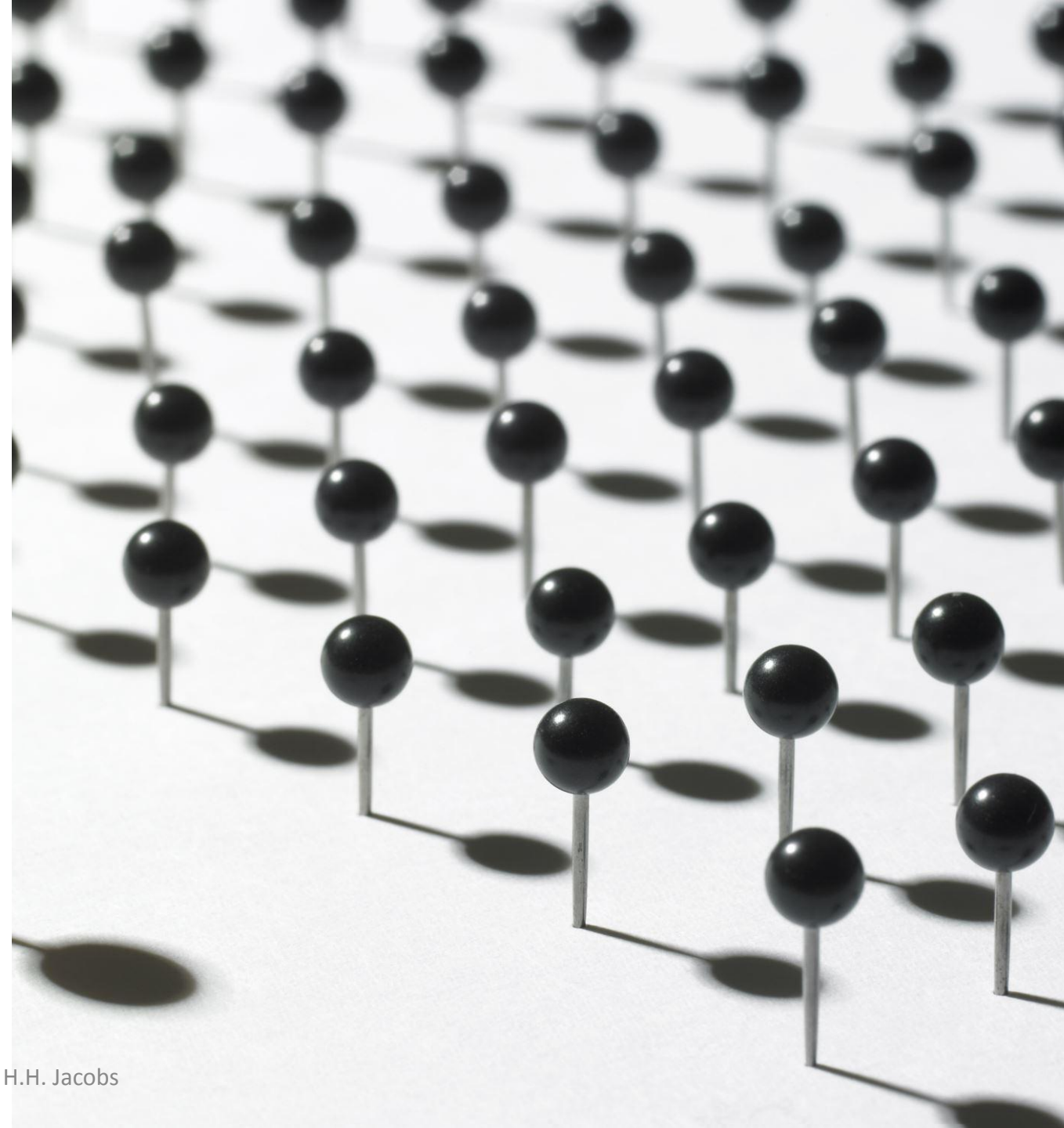
Off-campus: PLACE-BASED Learning

- Field experiences
- Internships
- Site visits
- Authentic learning opportunities



Spaces have direct implications on design of learning experiences

- Forum
- Project Terrace
- R and D Garage
- Seminar Room
- Da Vinci Lab
- Café
- Learning Suite
- Innovation Station



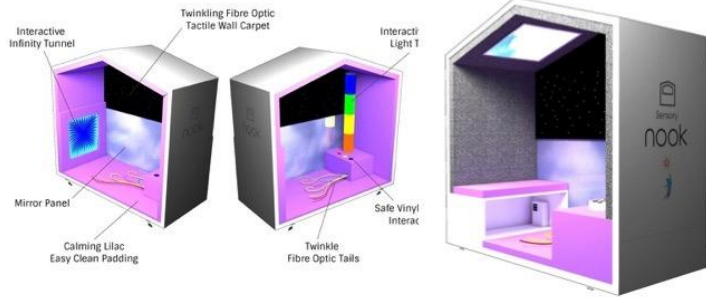


Modern furniture sculpts learning environments.

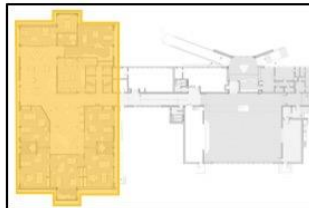


H.H. Jacobs

Learning Community | Technology Inspirational Images



NOOK Booths with integrated technology: monitors, outlets, lighting



Key Floor Plan

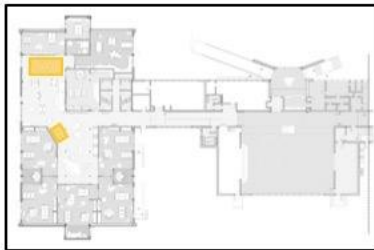
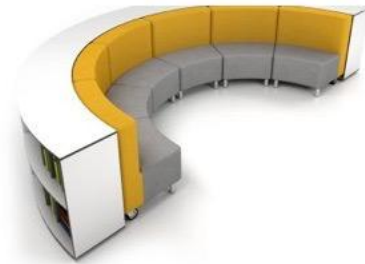


Acoustical curtain



Learning Commons | Campfire

Inspirational Images



Key Floor Plan

Learning Commons | Collaboration Space Furniture

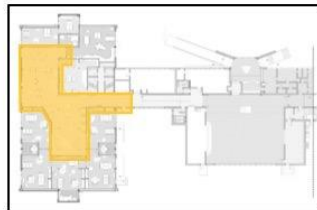
Inspirational Images



Collaboration Space furniture



Collaboration Space
Norma Rose Elementary School, Vancouver



Key Floor Plan



Soft seating



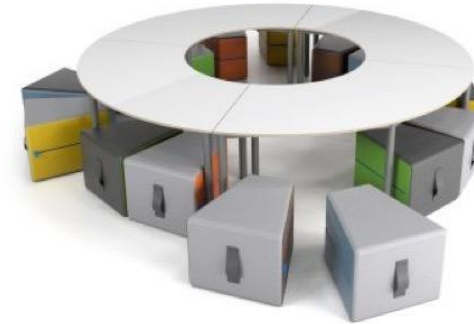
Soft seating



Mobile
Whiteboards



Active
Student
stools





VARIATION IN HEIGHT OF FURNITURE

Deerfield USD



POP-UP FURNISHINGS
CREATE FRESH SPACES



Buddinge School

2019, GLADSAXE, DENMARK





Play spaces are learning spaces



Furniture purchases sculpt spaces .



There is interplay between spaces and inviting furniture choices both child friendly and classical.



- Student friendly furniture in easy spaces invite calm.
- Note the tree-house effect.



Reimagining existing spaces



Opening up existing spaces with new furniture.



Tracey Robinson
Pattonville School District
St. Ann, Missouri





Cheryl Johnson

2nd Grade - York Suburban District, PA

WELCOME
TO
MATHVILLE

"Where
everything
adds up!"

SPEED
LIMIT
35





Cheryl Johnson
2nd Grade- York Suburban District, PA





CONTINUUM FOR PROGRAM STRUCTURES

Research and Development Action Plans



SPACE



TIME



GROUPING



PERSONNEL

	Research Teams (who, when, where)	Research Sources (who, when, how, where)	Share Findings (when, where, how)	Prototype 1	Prototype 2	Prototype 3
SPACE						
TIME						
GROUPING						
PERSONNEL						

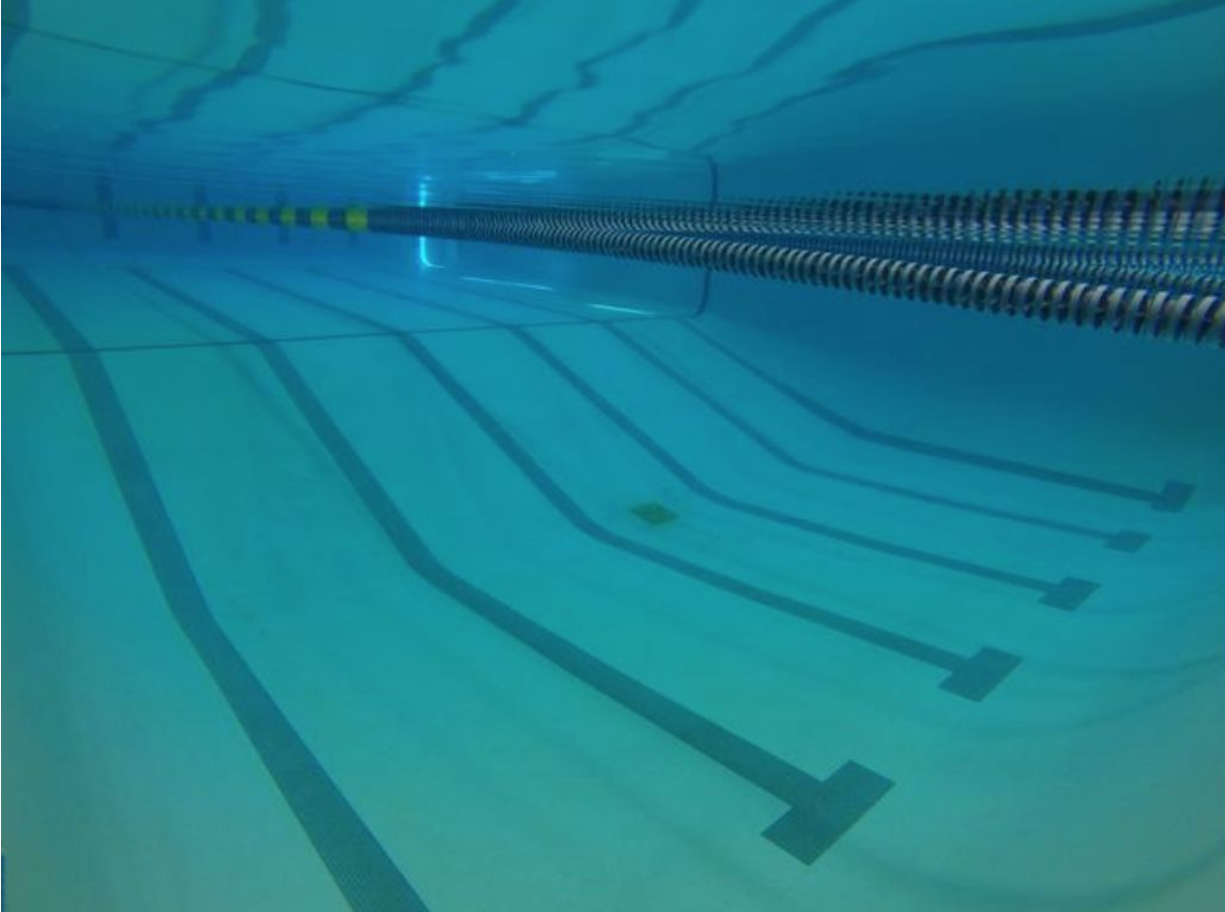


Discuss with your group:

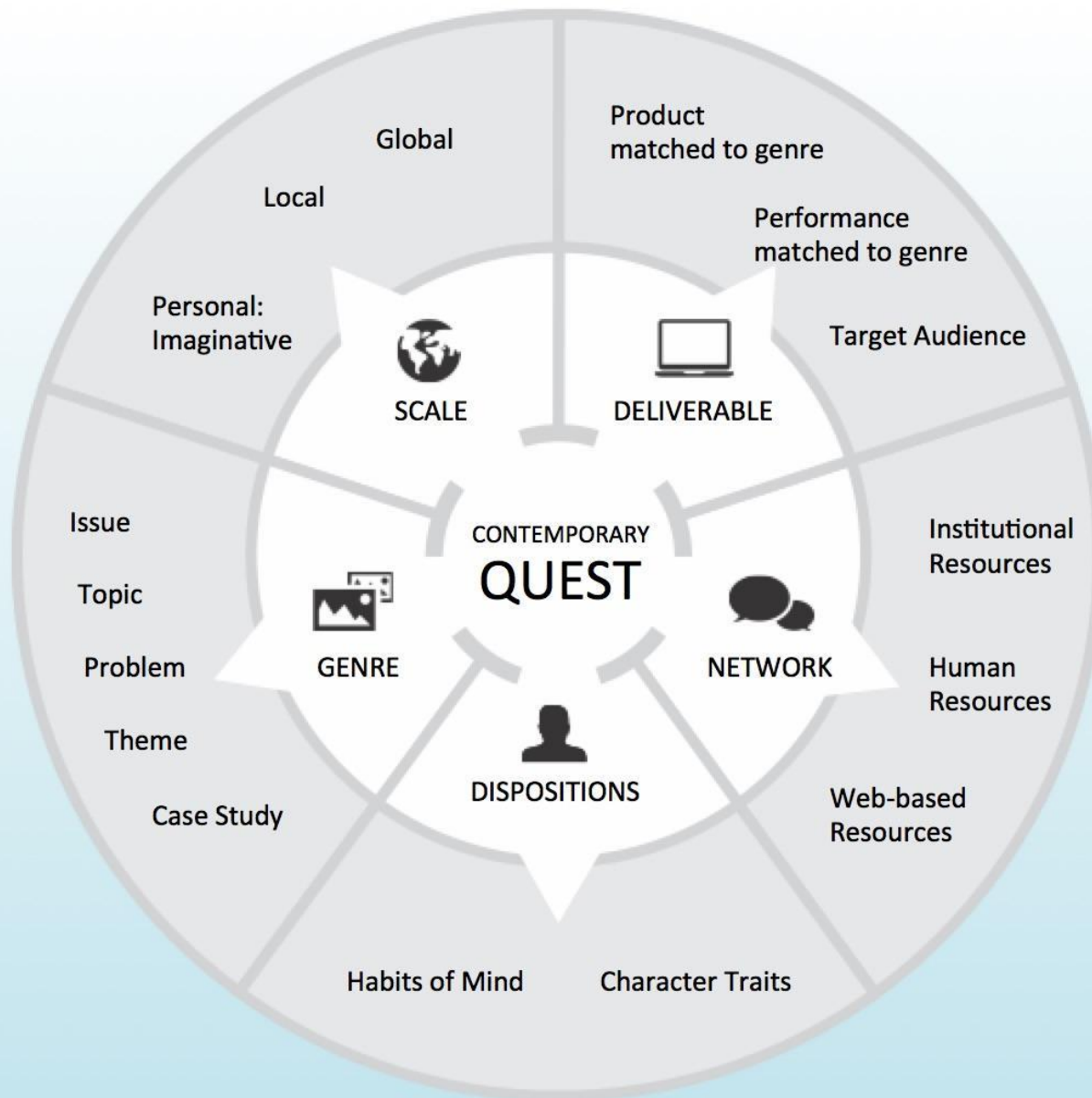
- *How do the architectural design of spaces impact learners in a building?*
- *How might furniture choices and placement impact learning opportunities for a teacher or team?*
- *How is the brain impacted by spaces and furniture?*

5 minutes

- Next Level



Contemporary is in the shallow end of the pool.
Moving now to the deep end of the pool -
Future of Learning



Four Structures: **LEARNER GROUPING**



Instructional Grouping Choices: **VARIABLES**



PURPOSE - Identity

- Voluntary/ Teacher determined
- Long term /short term
- Facilitation of group/ Independent
- Numbers in group

Purposes for Instructional Grouping

- ✓ Skill needs
- ✓ Mixed skills competence
- ✓ Mixed roles
- ✓ Readiness / timing
- ✓ Think tank / decision making
- ✓ Interests
- ✓ Social interaction / safety
- ✓ Civil discourse
- ✓ Routine / anchor groups
- ✓ Ad hoc



The Power of One

- Personal pace
- Self-reflection
- Confronting competence
- Thriving competence
- Creative risks
- Stakeholder in task

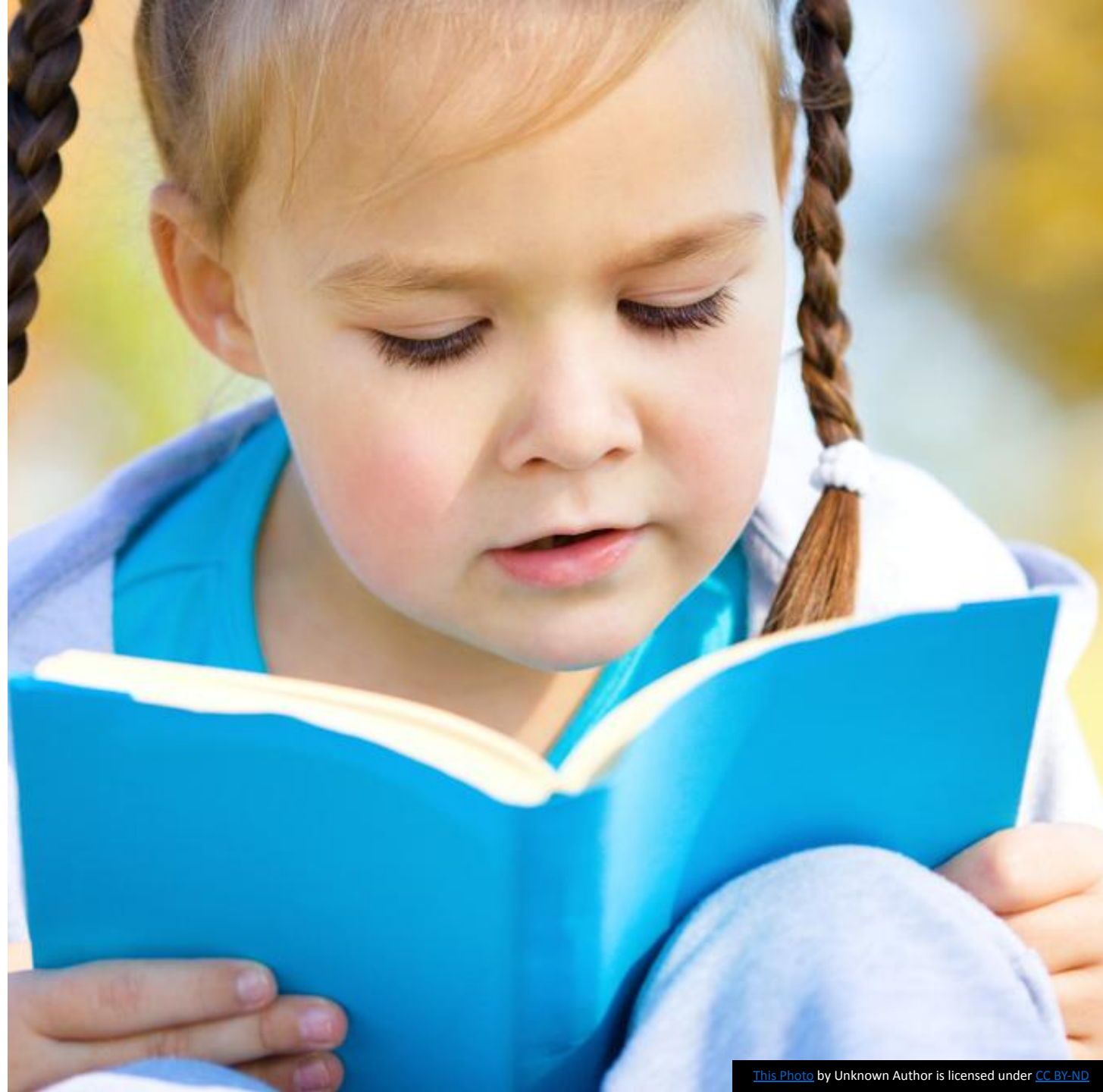


The Importance of Working Solo

Ultimately each learner is on his or her own journey.

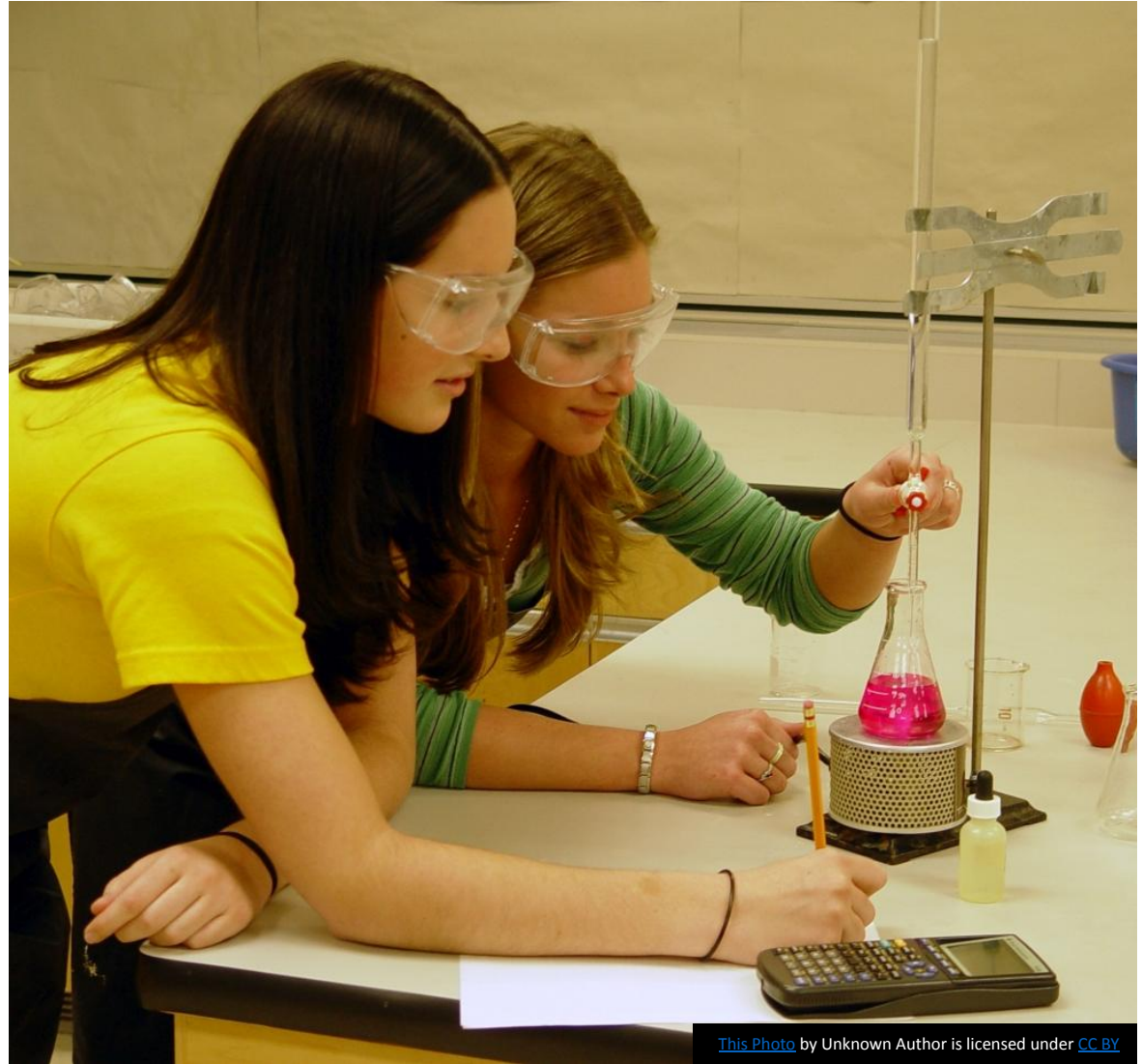
Confidence is developed with each personal step.

Fascination, curiosity and interest is a personal motivator.



Purposeful Pairs

- Shared reflection
- Focused communication
- Honest feedback
- Possible parallel work



This Photo by Unknown Author is licensed under [CC BY](#)



Problem Solving Trios and Quartets

- Completing tasks
- Problem solvers
- Group performances
- Role designations
- Sense of affiliation



Discussion Groups 5 to 8

- Enough members for an array of opinions.
- Enough members to counter one dominant member.
- Formal discussion groupings.
- Informal open-ended groupings.
- Reflection on both process and ideas is critical.

12 is a Quorum

- Direct instruction coupled with interaction.
- Can work as a large group with sub-groups .
- Sensibility of a team.
- Identity is still maintained with 12.

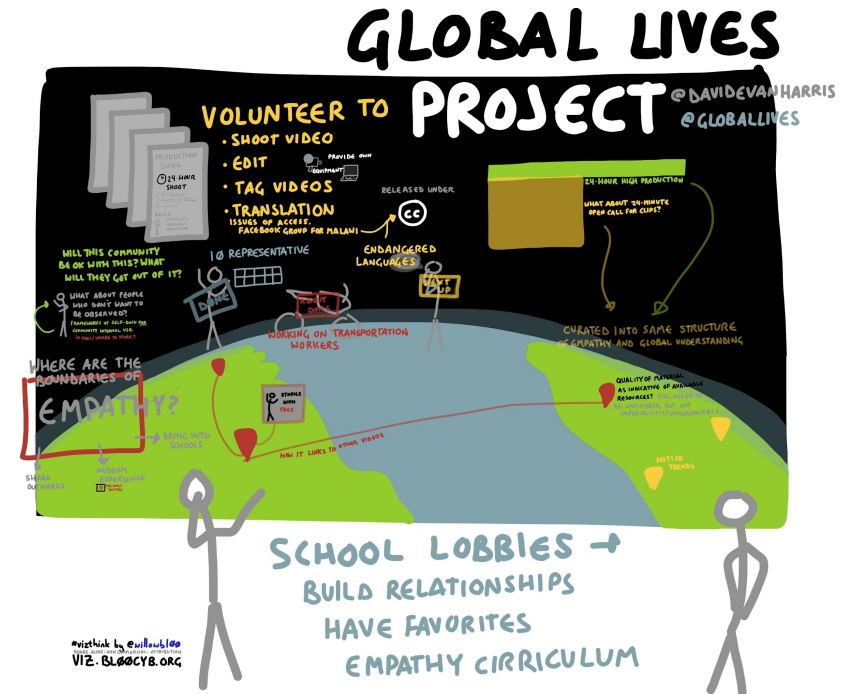




Whole Class

Personal identity is sublimated.
Possibility of community.
Village mentality
Natural leaders.
Shared responsibility.

Expanding Community Grouping: Local, Global, Virtual



Grouping of Professionals



Expanding affiliations

Roles and talents

Four Structures: PERSONNEL CONFIGURATION



Personnel Grouping:

- Institutional
- Instructional

Personnel Categories:

- Teachers
- Teaching Teams
- Administrators
- Coaches
- Advisors
- Counselors
- Support Staff
- Special Designation Teachers
- Directors
- Mentors
- Aides
- Field Guide



The Power of Teaching Teams

CONSIDERING PURPOSE

The Power of Multiple Affiliations



Affiliations can be curricular



Grouping by Teaching Talent



Subject Area



Interdisciplinary



Mentors: Student Projects



Pathway



Performance Field

Interest





Global Teams

Student Grouping Pattern	Teacher Configuration
Grade level grouping	Classroom teacher or team
Multi-age grouping	Teacher team
Interdisciplinary –single or multi-grade	Interdisciplinary team
Pathway model –high school	Cohort coach
Quest-Based Projects	Match with Advisor

Four Structures: **SCHEDULES**



Breaking away from the Tyranny of Time

TIME and SCHEDULE by HABIT

- Long term habits
- Short term inhibitors
- Reimagining existing opportunities
- Flip function following form
- Opening up fresh possibilities
- Future forward planning

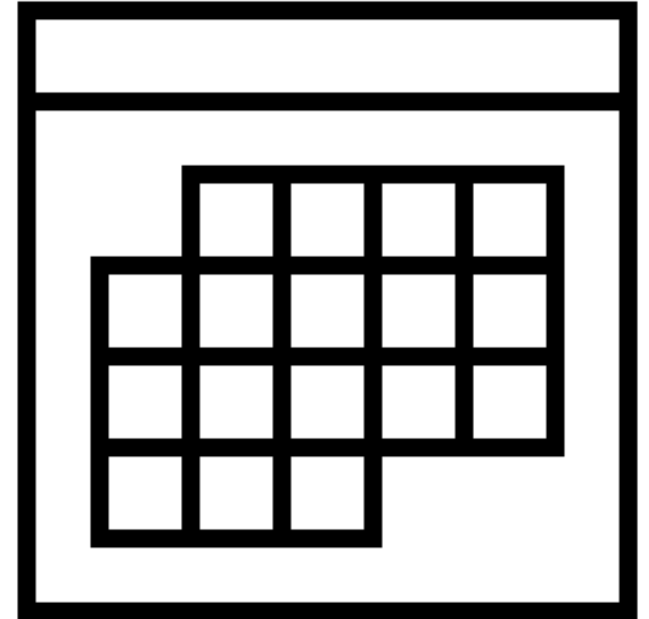
Consider impact on learning when time OPENS up:

- Replace graduation dates and deadlines with learning progressions.
- Some learners take more time and others finish at a younger age.
- Early entrance into college.
- Replace graduation with credentialing
- Start school when ready.
- Starting school later as in Finland



Rethinking the layout of the academic year

- Length of the school year with wide variations.
- Year-long school
- Reshaping summer vacation into summer inquiries.
- Eliminating summer school as punitive.
- Rethinking that school needs an annual calendar.
- Consider the impact of two or three year cycles.



Four Basic Models

1. **Industrial model** of different blocks of time but still often grouping students by age.
2. **Vertical model** of grouping students by subject and ability all at the same time.
3. **A La Carte model** where students access teachers and support anytime they need as they complete individualized and personalized pathways of study.
4. **Bidding for time model** where teachers match specific learning targets or bundles of learning targets to exactly the amount of time they need and then varied schedules are given to groups of students.

Often schools combine different models to achieve a schedule that really works.

Case study: Lockwood

A high school starting this process opted to provide teams with a large chunk of time - equal to two hours or even a half of a day - once a week. This time was to be divided up between the team members using three blocks. Small, Medium, and Large blocks. (for example, 30min, 90min, 2 hour)

The team would have to work together to make sure all of their learning targets were met. The idea was to train the team to think about time flexibly. In addition, it helped the team think about aligning learning targets to time in preparation for the school to move toward bidding for time.



Case Study: Belgrade

This elementary and middle school wanted to close gaps quickly. They opted to have a vertical schedule for students three times a week during the morning. They taught granular subjects like language and mathematics during those sessions. Students could move up or down in levels immediately.

The afternoons of these days were interdisciplinary periods where students were grouped by ages and given large challenges to work on in teams. Two days a week students were in regular block schedules grouped by age. This was a transition schedule to train the community to think flexibly about time. There was a sixth day planned where students could gather for celebrations, delayed openings, or assemblies without disrupting a day.



River Continuum Concepts, Inc.
Aquatic Insect Educational Outreach: Belgrade Middle School, Montana
Aquatic Ecology Chronicle - River Continuum Concepts, Inc. ~ Email River
Continuum Concepts, Inc.

	Day A	Day B	Day C	Day E	Total Min a Year
Writing / Reading	80 pm	45 PM	60 AM	80 PM	8800
Math	80 am	45 AM	45 AM	80 PM	8800
World Language		80 AM	30 AM		8200
Science	45 am	45 PM	80 PM		8200
Social Studies	45 pm		80 AM		8200
PE / Health					8200
Transdisciplinary				120 AM	3600
Digital Literacy					3600
Home Economics					3600
S.T.R.I.D.E.	80 pm	80 PM	30 PM	45 PM	
Special Ed					4000
Steam					3600
Flex	30 AM	30 AM 30 PM	30 PM	30 AM	4000

Day A	Timmy grade 6 Team 1	Lisa Grade 6 Team 2	Shannon Grade 6 Team 3
8:25-8:55	30 min Flex	30 min Flex	30 min Flex
8:56-10:16	80 min ELA	80 min MATH	45 minutes Science
10:17 - 11:00	45 min Science	45 min Social Studies	80 min STRIDE
11:04 - 11:36	LUNCH	LUNCH	LUNCH
11:36-12:56	80 min MATH	80 min STRIDE	45 min Social Studies
12:58-1:43	45 min Social Studies	45 min Science	80 min MATH
1:45-2:55	80 min STRIDE	80 min ELA	80 min ELA

August

M	T	W	Th	F
		22	23	24
27	28	29 First Day A	30 B	31 A

September

M	T	W	Th	F
No School	A	5C	A	7B
No School	A	** 12C	A	14 B
A	*18 B	No School	*20 C	A
A	*25 B	C	*27 B	A

October

M	T	W	Th	F
A	*2B	A	*4C	5B
No School	9B	A	11B	A
A	16C	17B	18C	B
A	Eve. Con- ferences B	A	Eve. Con- ferences B	A
A	30B	C		

November

M	T	W	Th	F
			1C	2B
A	Election Day PL Sessions	C	8B	A
Ed Week C	13E	14E	15E	16E
19C	20E	21E	No School	No School
A	27B	A	29B	A

December

M	T	W	Th	F
3A	4B	5A	6C	7B
10A	11C	12B	13A	14B
17A	18B	19A	20C	21B
No School	No School	No School	No School	No School

January

M	T	W	Th	F
	No School	2A	3C	4B
7A	8B	9A	10B	11A
14A	15B	16C	17A	18B
No School	22A	23B	24A	25B
28A	29B	30A	31C	

February

M	T	W	Th	F
				1B
4A	5B	6A	7B	8A
11A	12B	13A	14C	15B
No School	No School	20E	21E	22E
25B	Min Day Evening Conferences C	27B	Min Day Afternoon Conferences C	

March

M	T	W	Th	F
				1B
4A	5B	6C	7B	8A
11A	12B	13C	14B	District PL DAY A
18A	19B	20C	21A	22B
25A	26B	27A	28B	29B

April

M	T	W	Th	F
1A	2B	3A	4B	5A
8A	9B	10C	11A	12B
Spring Recess				
22A	23B	24C	25B	26A
29A	30B			

May

M	T	W	Th	F
		1A	2C	3B
6A	7B	8A	9B	10A
13A	14B	15A	16C	17B
20C	21E	22E	District Spelling Bee E	24 E
No School	28B	29C	30B	31C

June

M	T	W	Th	F
3C	4E	5E	6E	7E
10C	11E Last Day	12	13	14
17	18	19	20	21
24	25	26	27	28



Direct
correspondence
to learner
groupings on the
institutional
level.



Orchestrating form and purpose of student grouping.



Matching it to personnel configuration.



Matching teacher talent and skill to the situation.



Team building requires collaborative facility.



Questions
Comments
Takeaways

Thank you!



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