

Programming for a Healthy Future: Two School Districts' Path to Equitable Learning

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Introduction

WHY is it important to take the time to reconsider distinct spatial solutions for modern learning environments?



30 feet x 30 feet

30 students

30 sf/student

Lakeridge Middle School, Lake Oswego Oregon



Madrona K-8, Edmonds, Washington





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Agenda

Transformational Questions

Interactive Programming Exercise

Design Solutions + Outcomes

Conclusions + Questions

Learning Objectives

AIA Learning Units: Health Safety and Welfare

- > Discover **programming tools** to inform a building design solution centered around teaching and learning activities rather than traditional metrics.
- > Hear a principal, capital projects manager, and architect explain **how programming impacted classroom design and professional development** for staff.
- > Learn to articulate ways to **equitably support the learning center** and identify resources and tools, including appropriate acoustics and daylighting.
- > Consider how natural ventilation, air filtration, sinks, moveable walls, and inclusive restrooms facilitate the **adjustment to a post-Covid world**.

Transformational Questions

Lakeridge Middle School

**How might we support
every learning experience
to be interactive, creative,
and adaptable?**

Madrona K-8

**How can we center
multi-age and outdoor
learning and support
variety in collaborative
learning?**

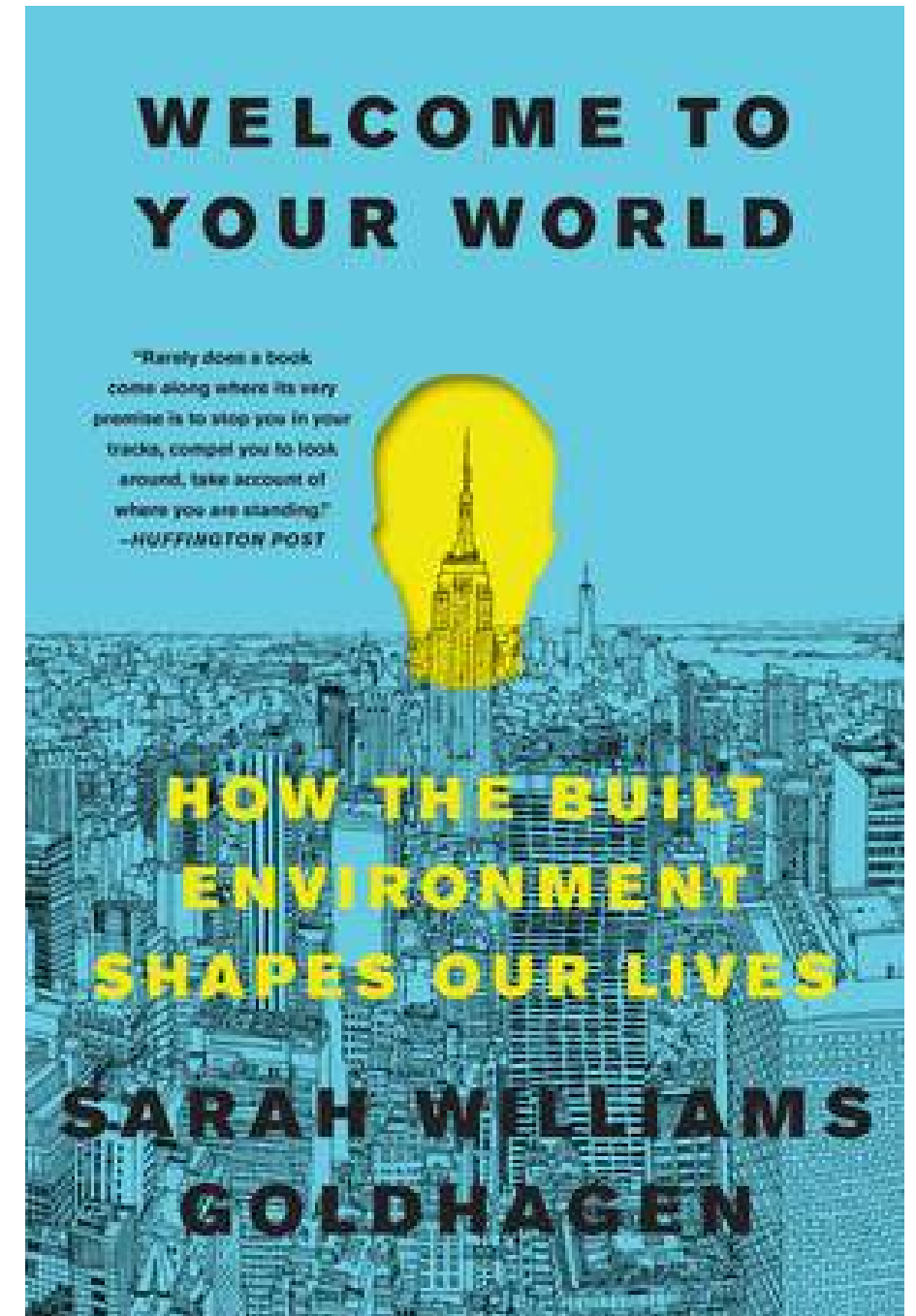
Interactive Portion

Programming Tools

Environmental Psychology

How Learning Environments Shape Our Lives

- > *Welcome to Your World:
How the Built Environment Shapes Our Lives*
by Sarah Williams Goldhagen



Affordances

- > "The affordances of the environment are what it offers the animal, **what it provides or furnishes**, either for good or ill."
James J. Gibson, 1979
- > "... the properties of an object or features of an environment that **suggest to us how it is to be used.**"
Sarah Williams Goldhagen, 2017
- > **Implies a relationship between the animal and the environment**
- > **Examples:**
Seat walls, cushions, furniture



Action Settings

- > **Three Components:**
 - Person
 - Environment
 - Social Context
- > Action spaces as predictors of **children's behavior**
(Roger Barker)
- > **Patterned arrangement and social context**
(Sarah Williams Goldhagen)



Action Settings

Questions to Consider

Sarah Williams Goldhagen's criteria for how we engage with a particular place:

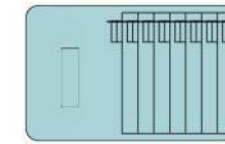
- > How does it facilitate human activities and the correspondence among those activities?
- > What is the preferred arrangement of objects in space?
- > What associations do the place's forms elicit?



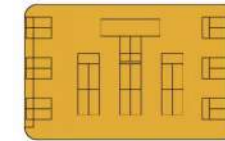
Action Settings / Learning Modalities

As an Educator:

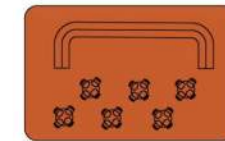
- > How can the built environment support your academic program?
- > What would happen if we begin by programming space around action settings or learning activities instead of around desks?
- > What affordances or tools are needed to support these activities?



Forum/Lecture



Workshop/Create



Community/Gather

GROUP ACTIVITY (<14 STUDENTS)



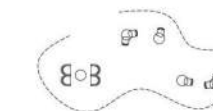
Project/Activity



Large Group



Small Group



Individual Study

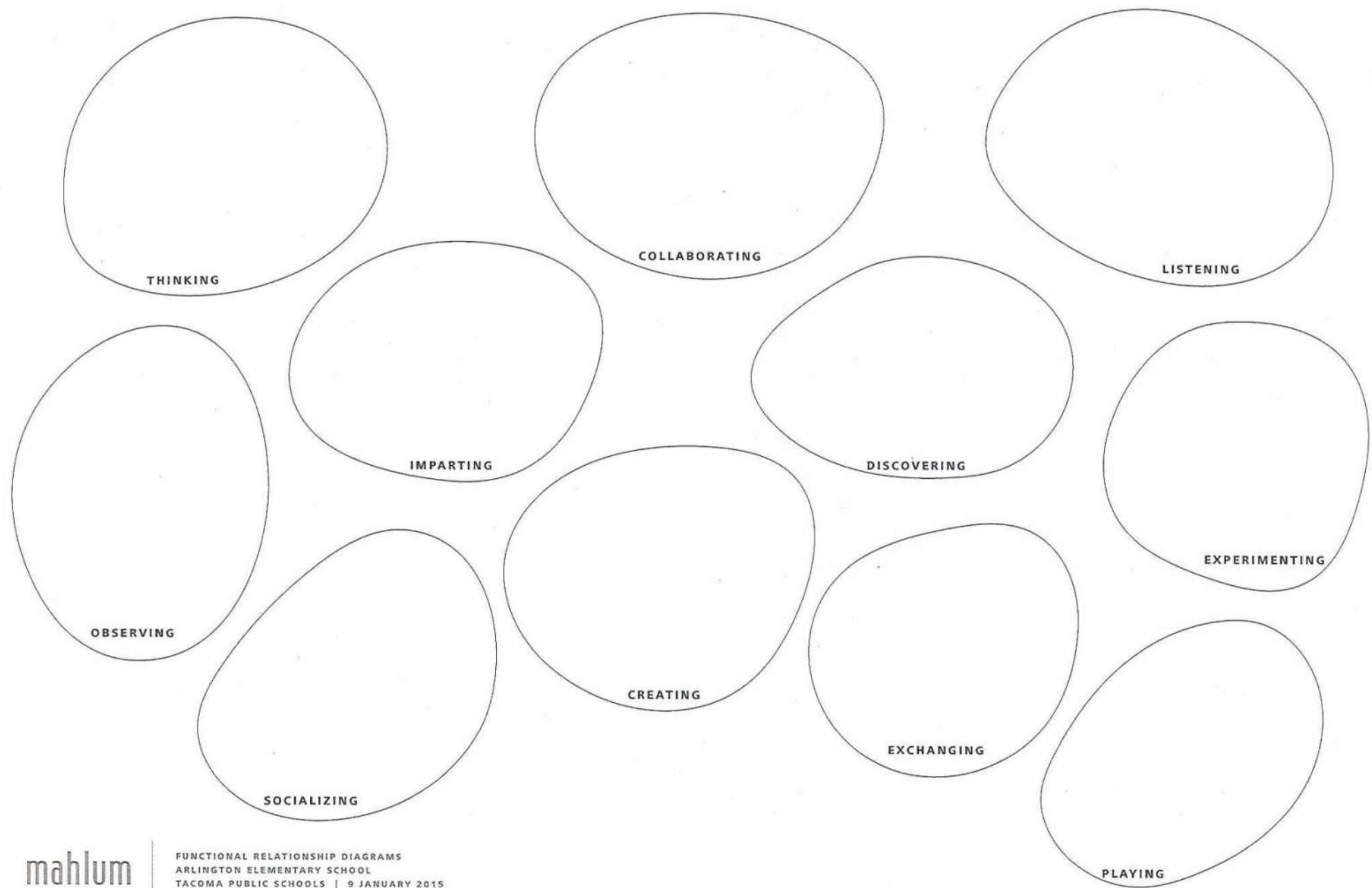


What's on Your Mind?

**Select an issue or goal
related to student-
centered learning that
you want to address at
your school.**

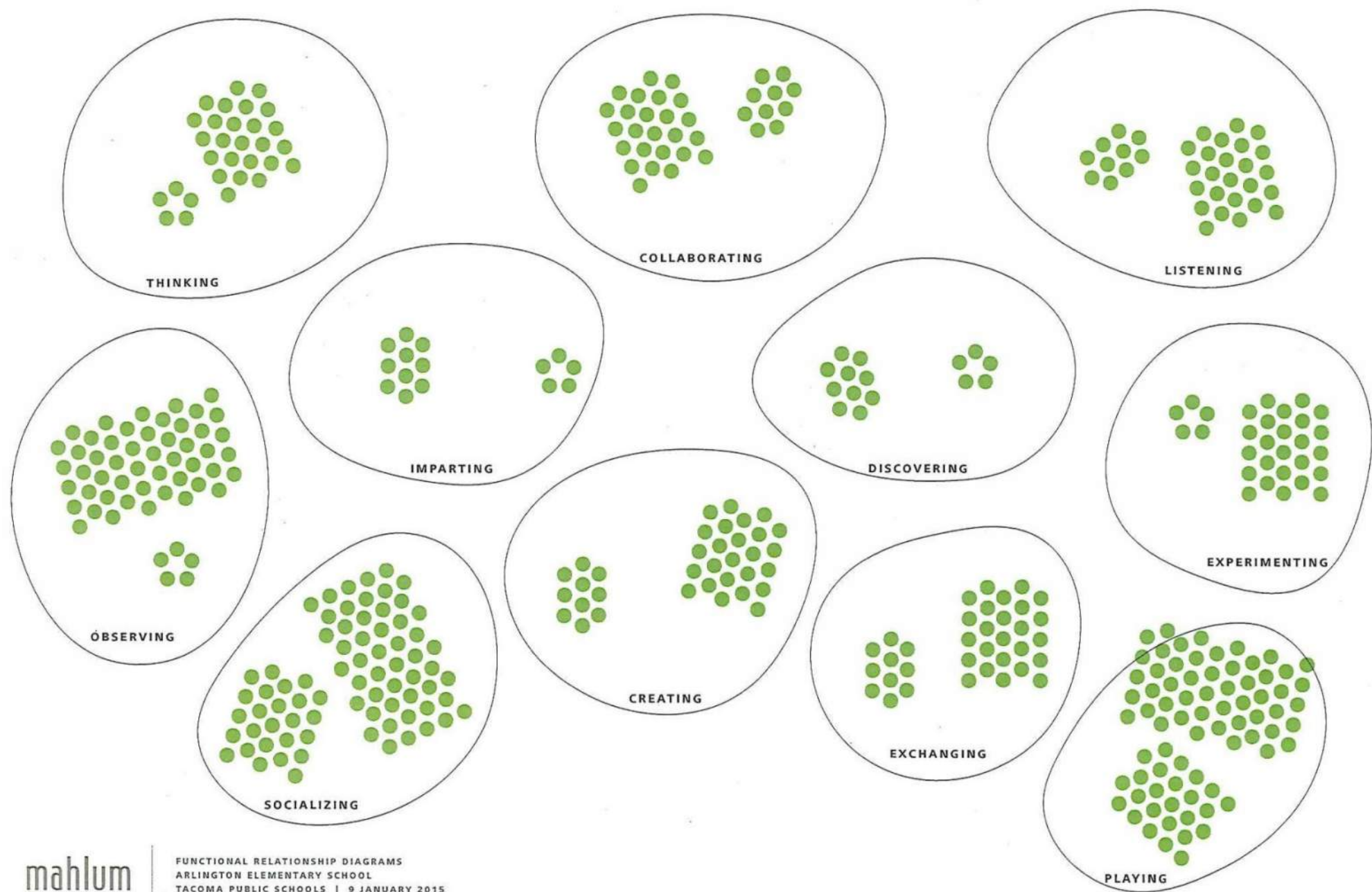
Action Settings / Learning Modalities

Actions



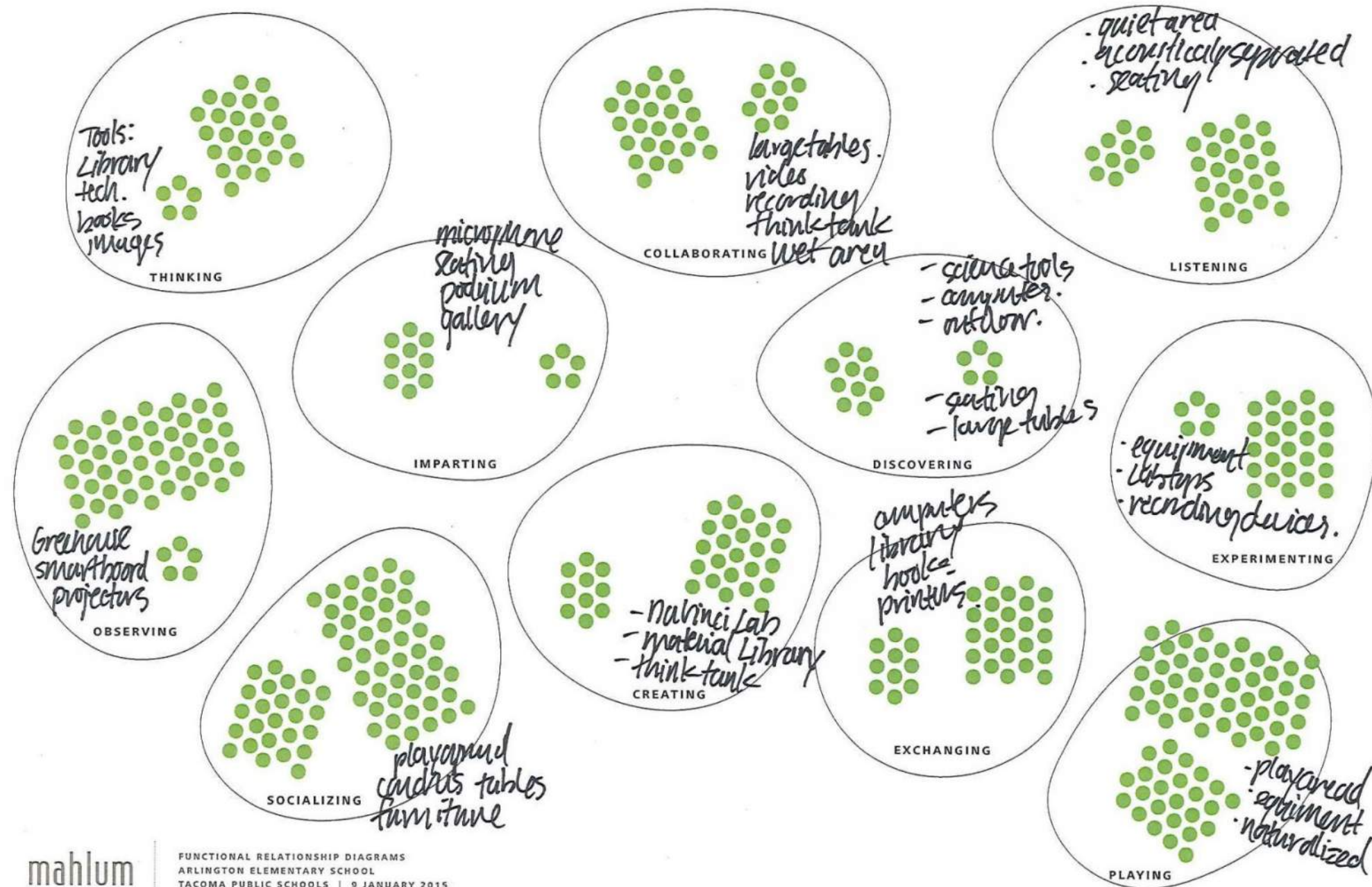
Action Settings / Learning Modalities

Student Groupings

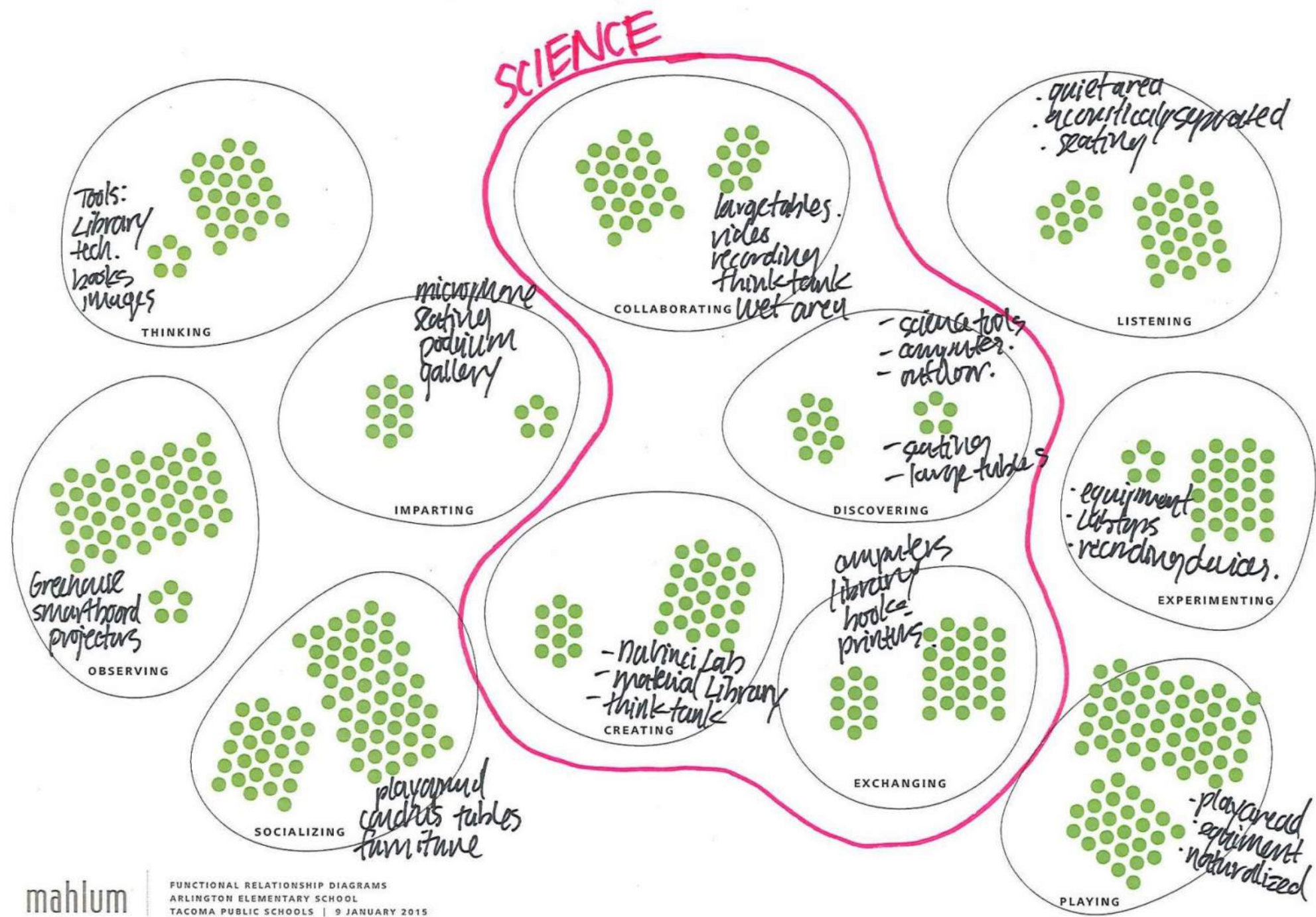


Action Settings / Learning Modalities

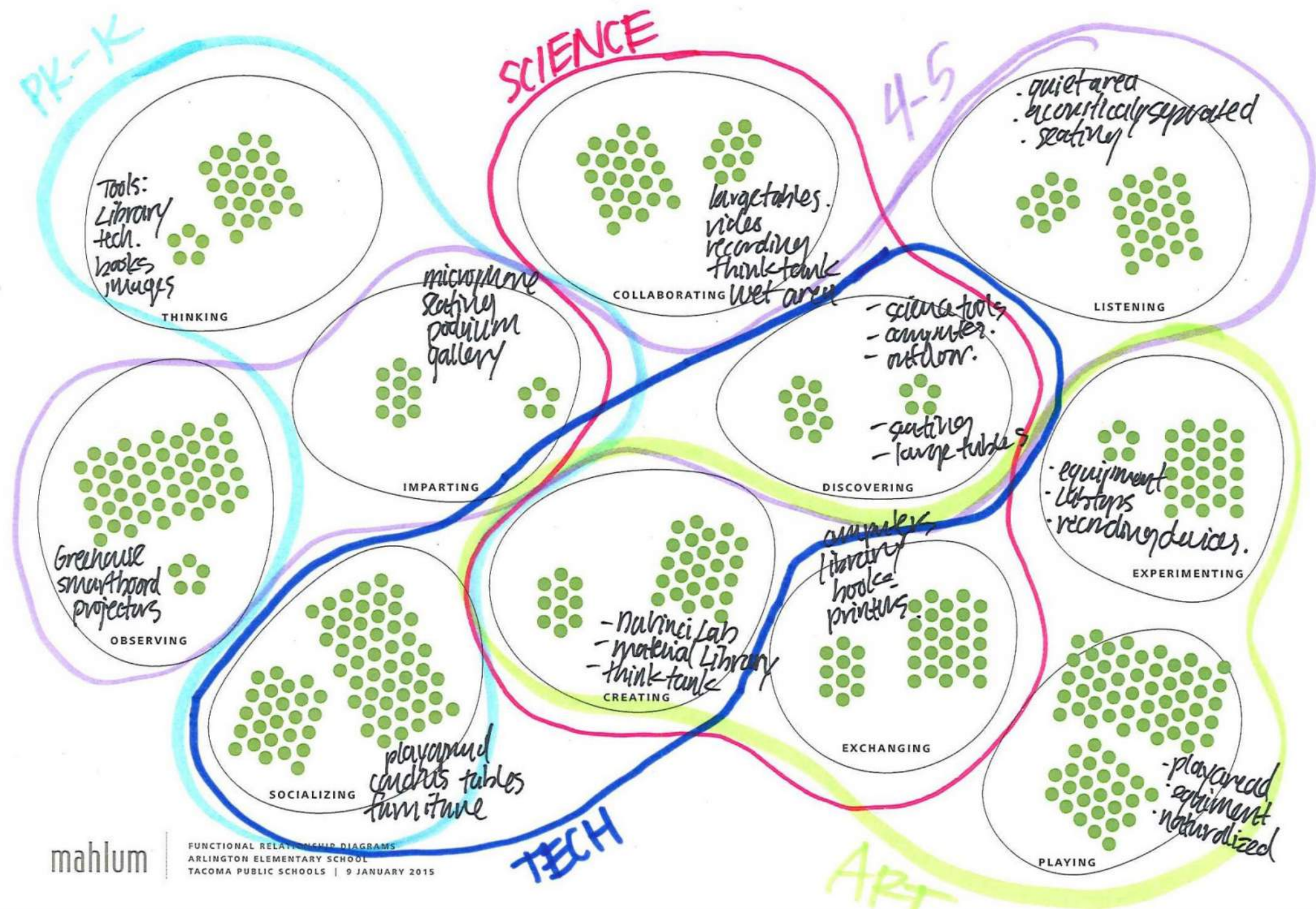
Affordances/Tools



Action Settings / Learning Modalities



Action Settings / Learning Modalities



Topic Ideas

- > Student-centered classrooms
- > Push-in learning
- > Deep collaboration
- > Feeling safe in a post-pandemic school
- > Pick another based on your school's needs

Share Back

A-ha Moments

Design Solutions & Outcomes

Lakeridge Middle School

Design Solution + Outcomes

OWNER

Lake Oswego
School District

LOCATION

Lake Oswego,
Oregon

OCCUPANCY

2020

CAPACITY

1,100 Students

GRADES HOUSED

6-8

SITE AREA

28.8 Acres

BUILDING AREA

141,000 SF

BUDGET

\$68.6M

PREDICTED ENERGY USE

22 pEUI

ESTIMATED UTILITY SAVINGS

\$56,000/year

ARCHITECT

Mahlum Architects

GENERAL CONTRACTOR

Skanska

STRUCTURAL ENGINEER

KPFF Consulting
Engineers

CIVIL ENGINEER

HHPR

LANDSCAPE ARCHITECT

Mayer/Reed

MECHANICAL/ELECTRICAL

PAE

THEATER

PLA Designs

A/V & ELEVATOR

The Greenbusch Group

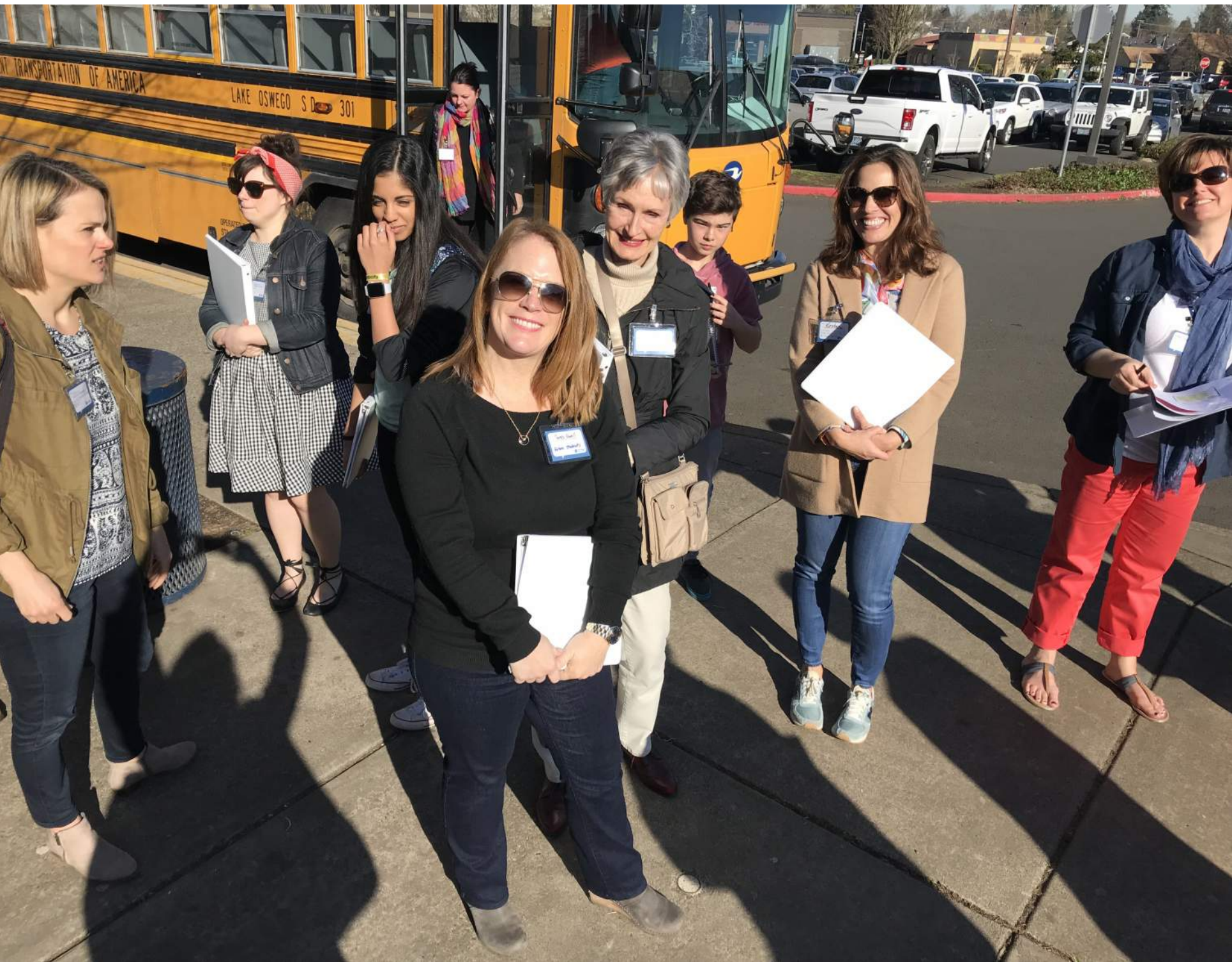
SECURITY & ACOUSTIC

Stantec

FOOD SERVICE

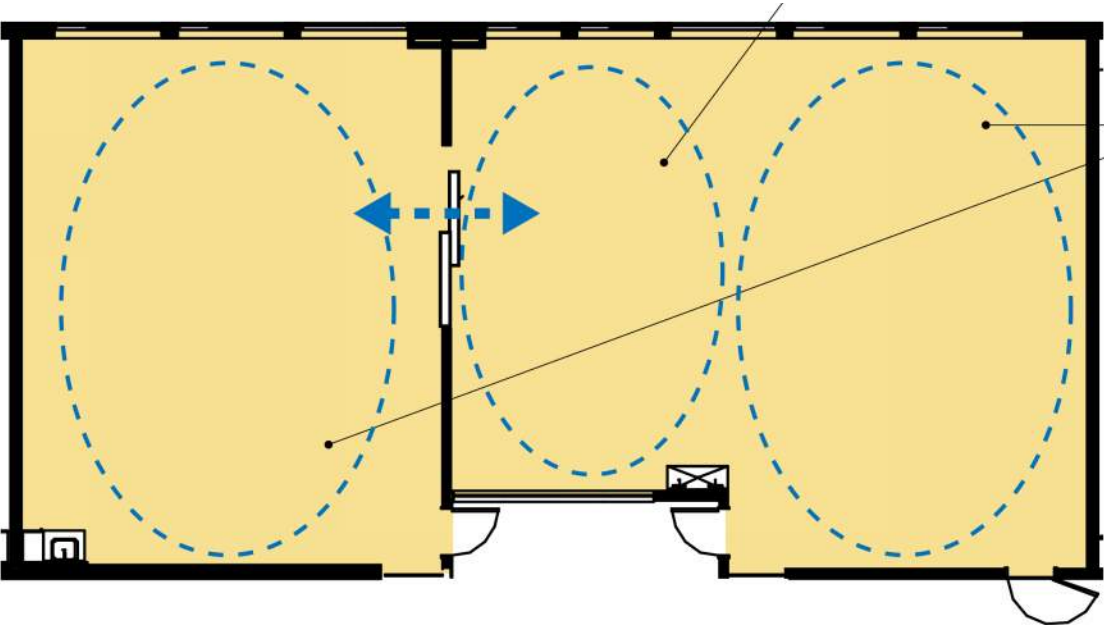
Halliday Associates

Design Tours



Learning Studios

1300 sf + 900 sf

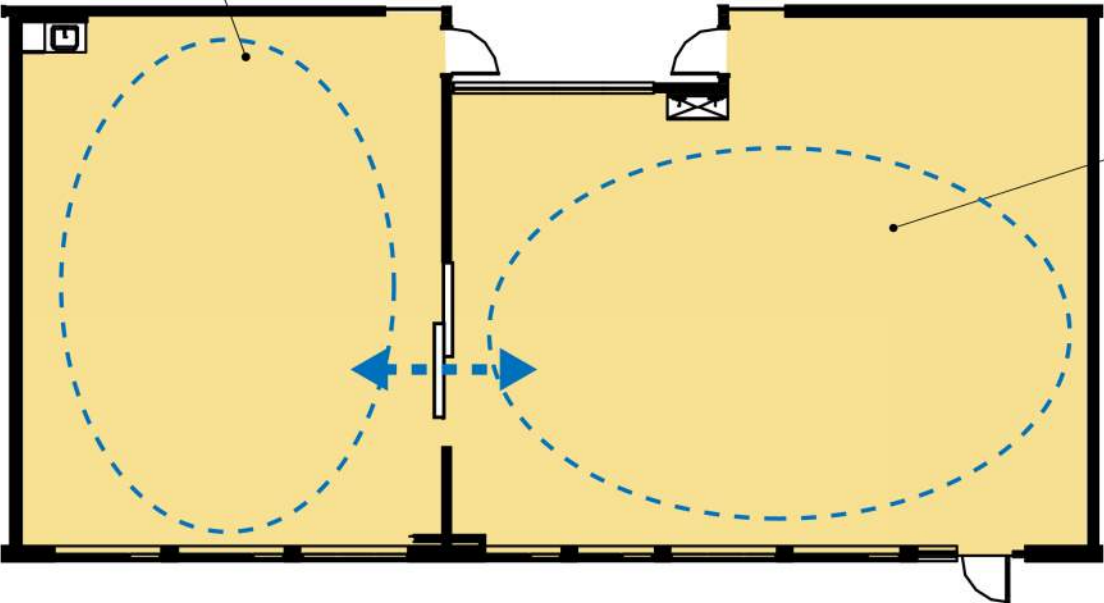


STANDARD CLASS



SMALL GROUP
BREAKOUT

HALLWAY

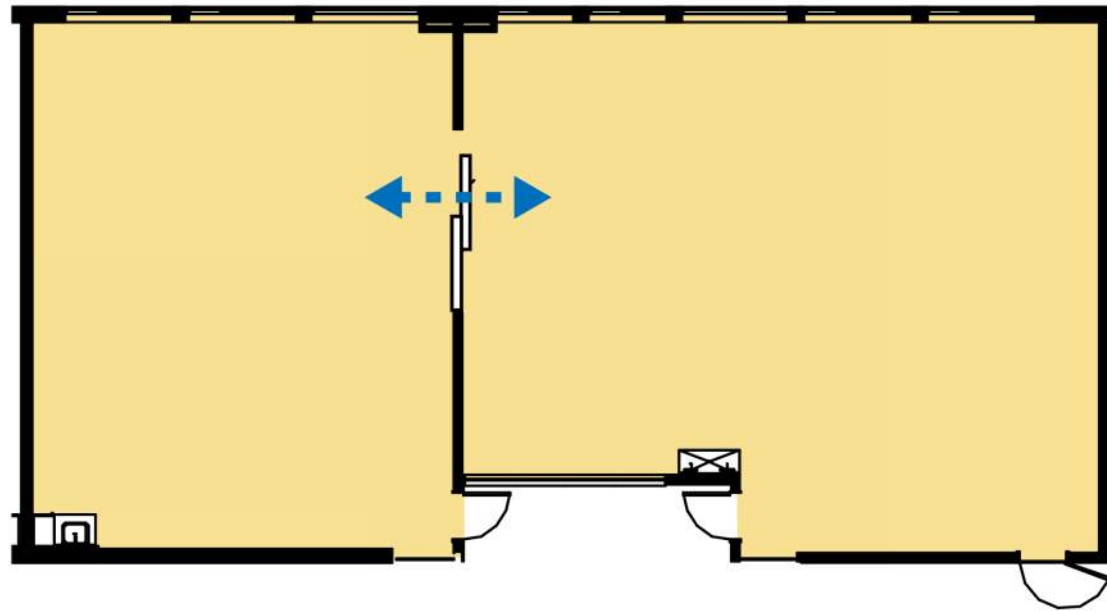


LARGE GROUP CLASS

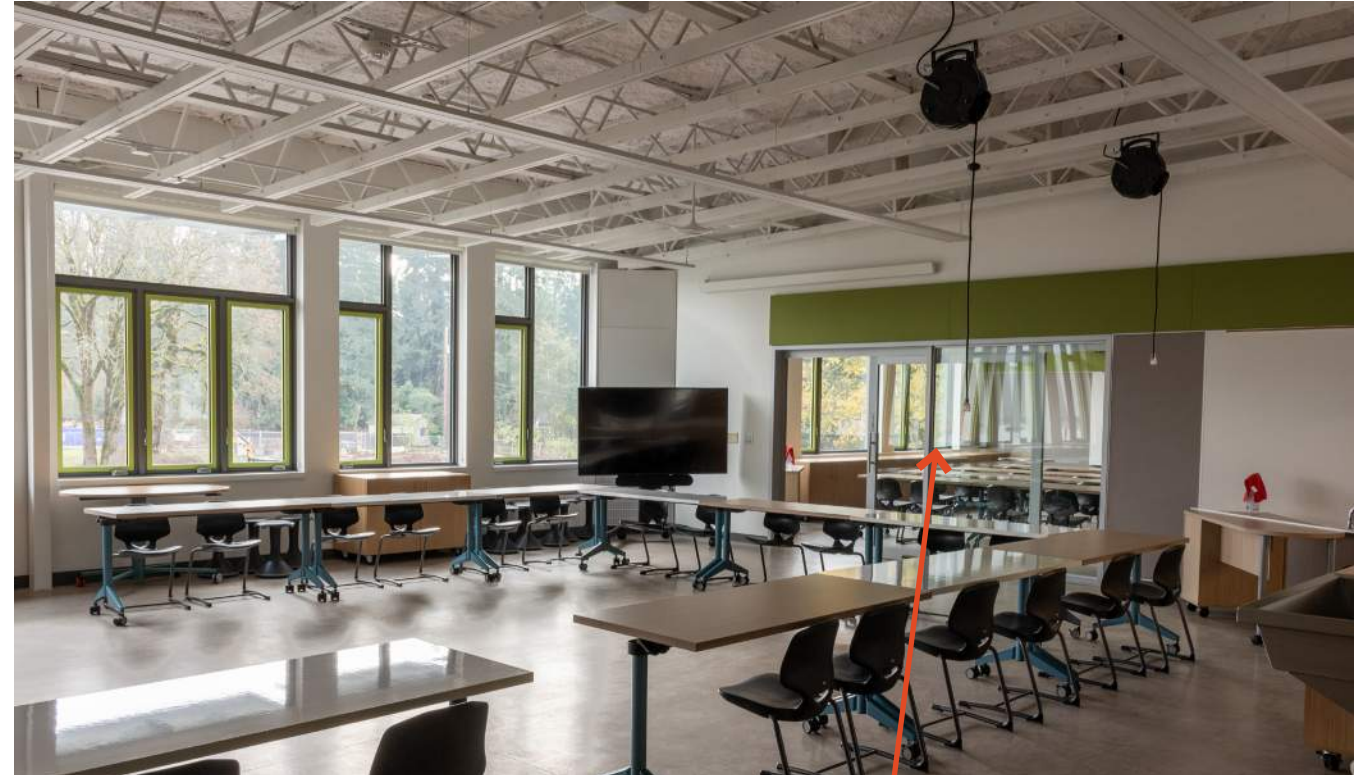
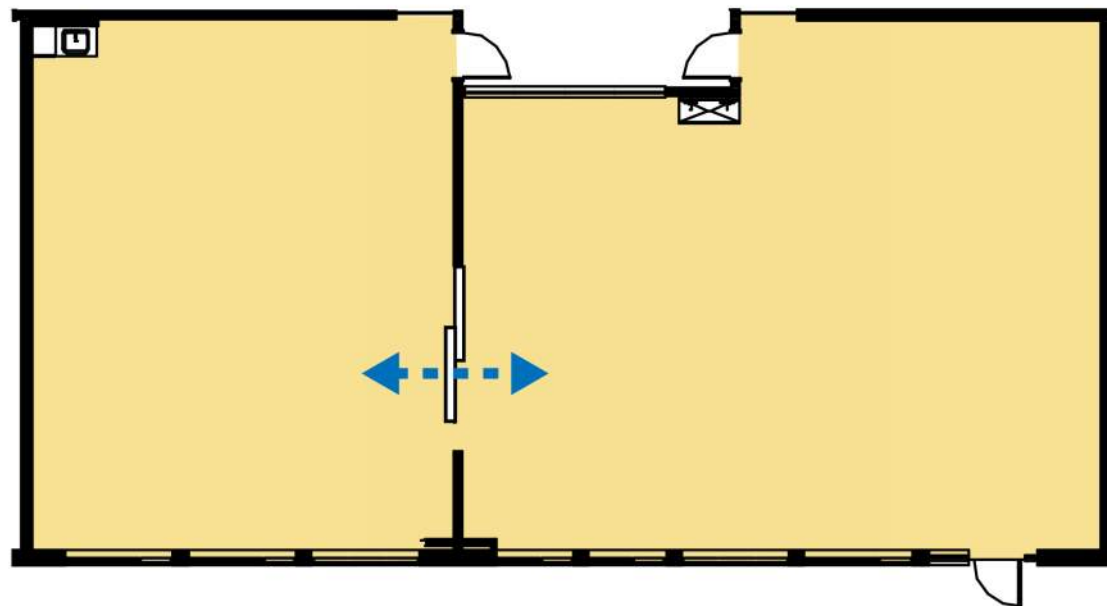


Learning Studios

2 teachers, 1 learning environment



HALLWAY

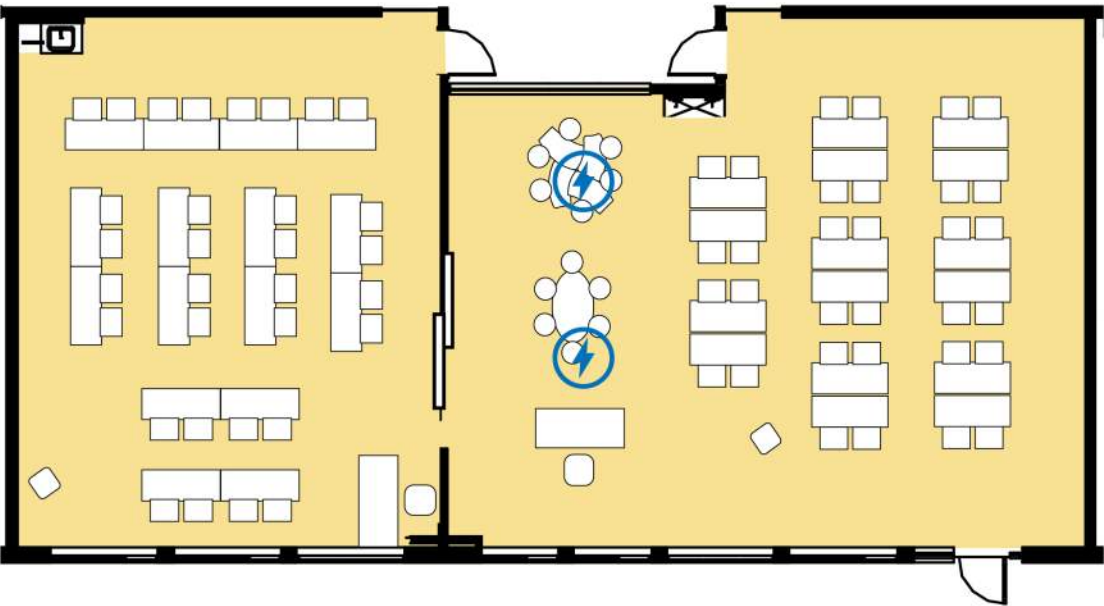


Learning Studios

Affordances (support tools)



HALLWAY



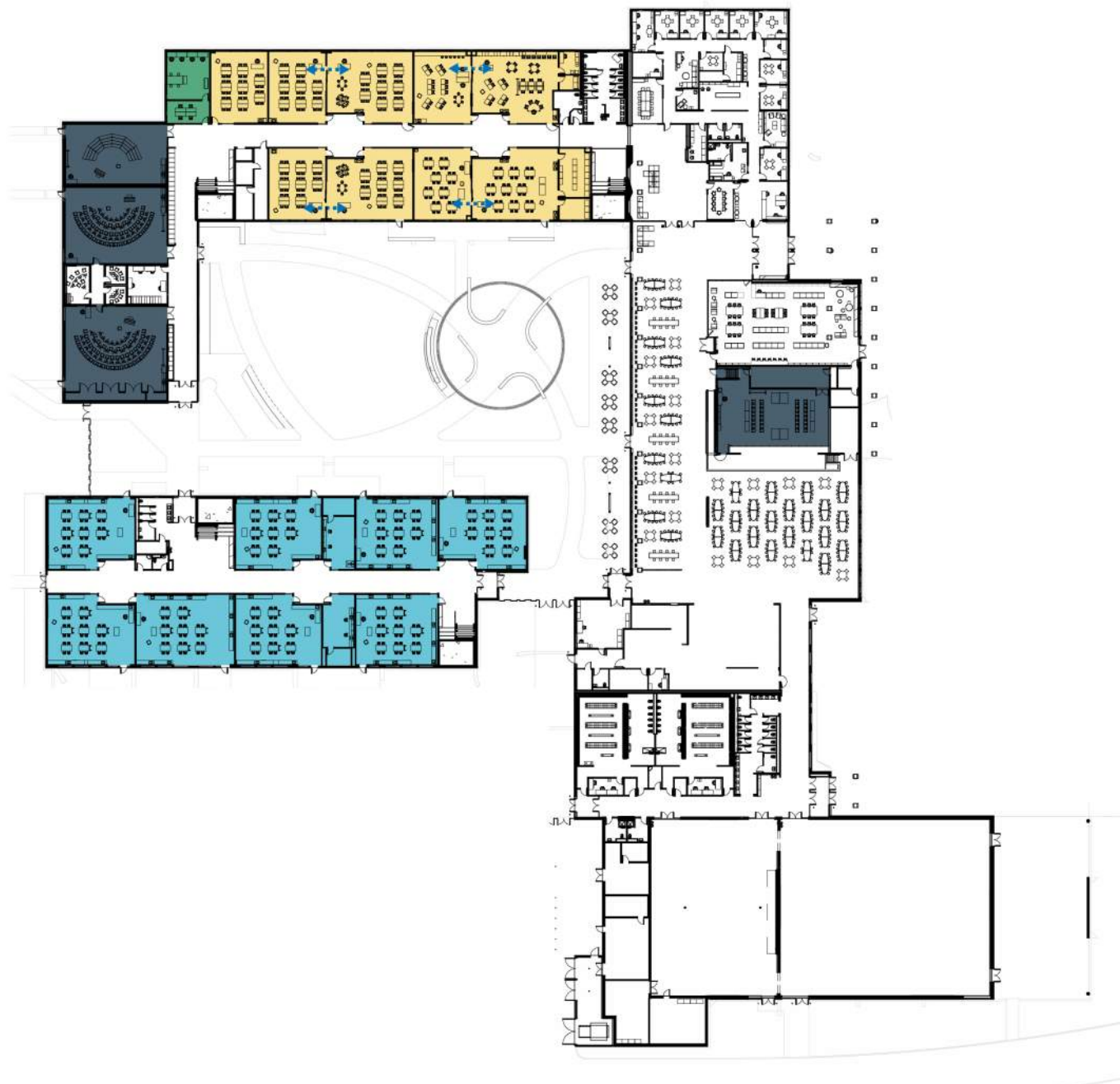
Learning Studios

In Action

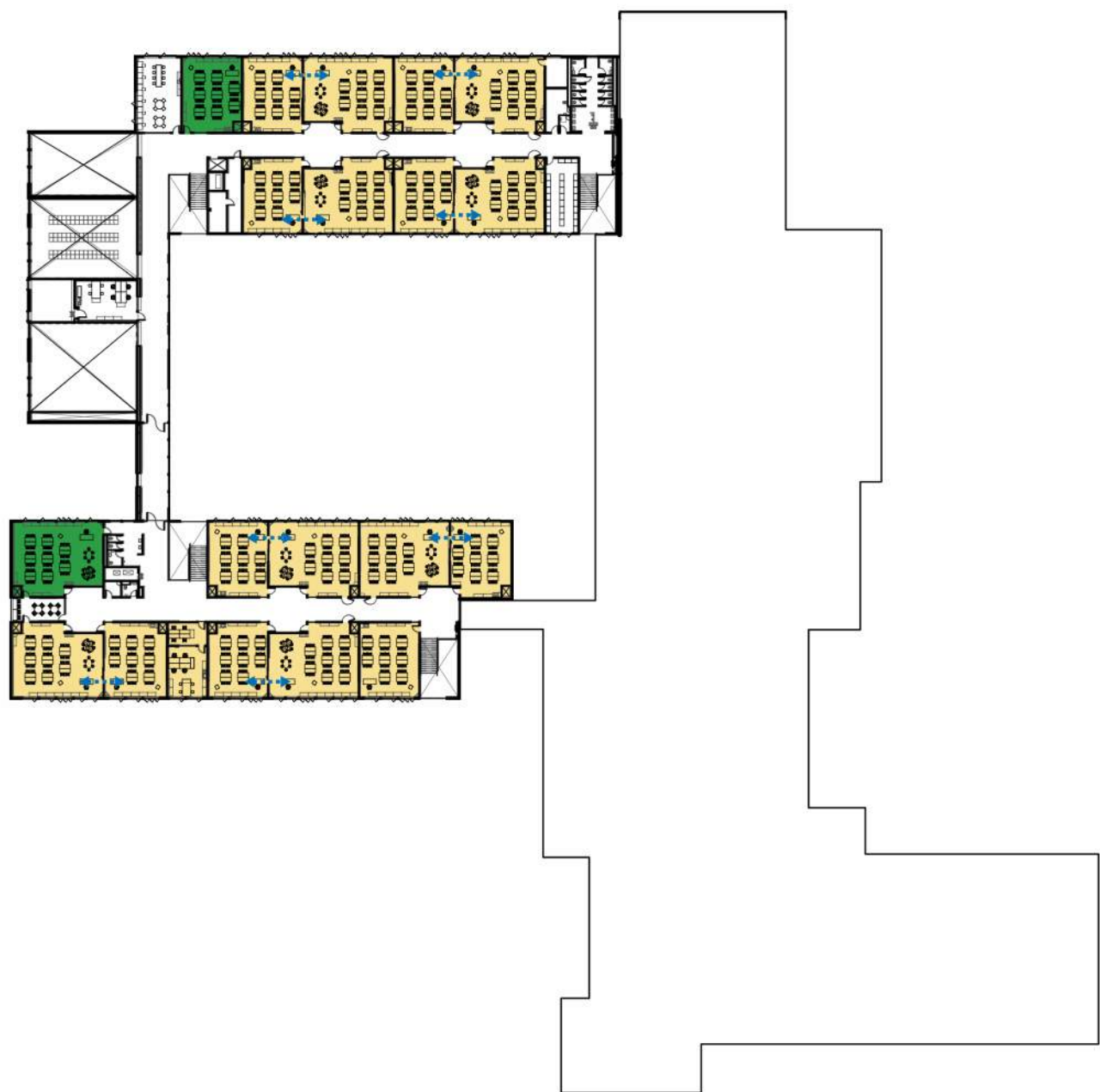


Learning Spaces

LEVEL 1

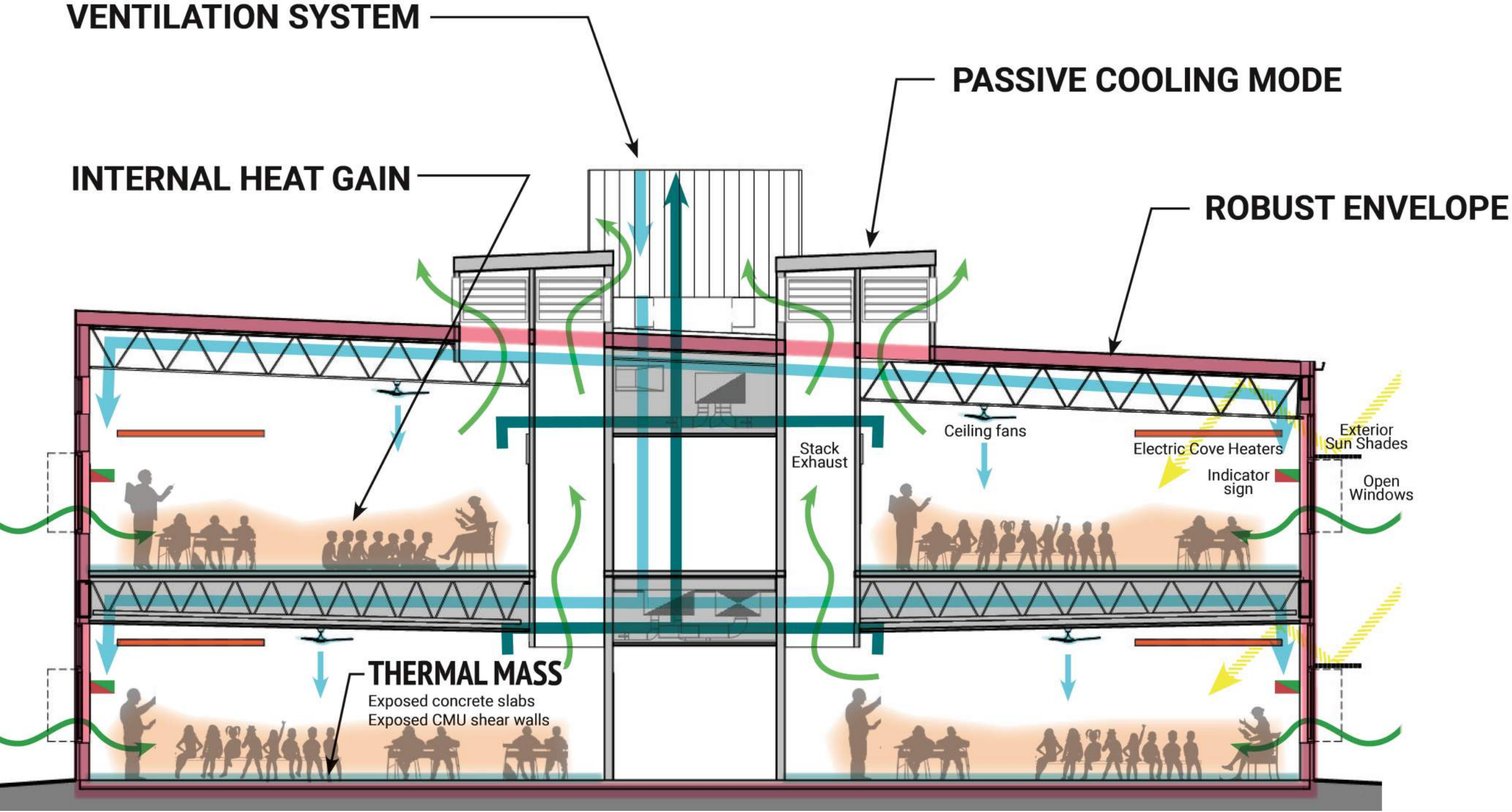


LEVEL 2



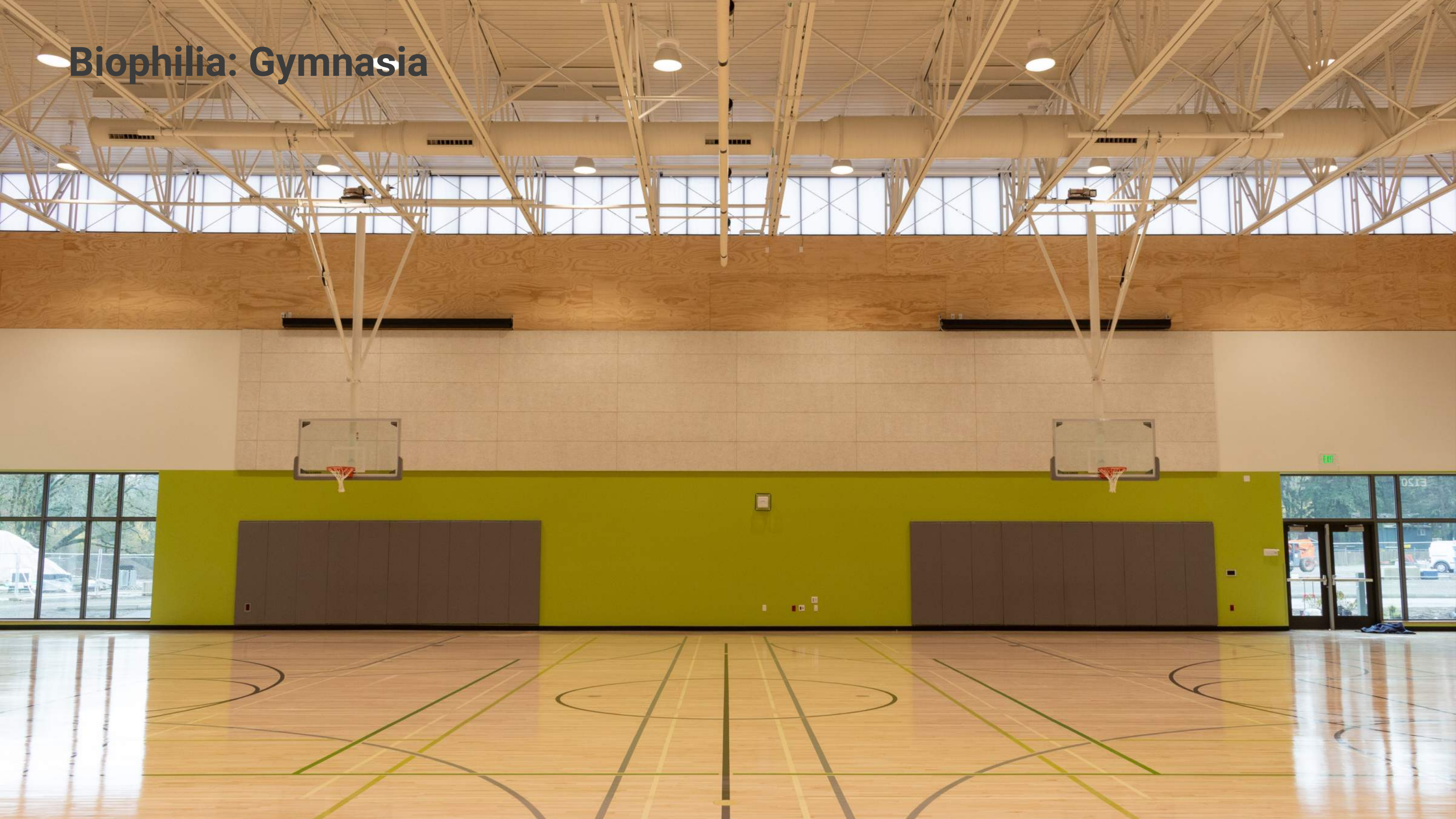
- Paired Learning Studios
- Single Learning Studio
- Dedicated Science Classroom
- Music and Drama

Hybrid Passive Cooling





Biophilia: Gymnasia



Biophilia: Whole Trees Columns





LAKERIDGE MIDDLE SCHOOL

Supporting Learning





Professional Development: Mockup Classroom



Professional Development: New Building





Madrona K-8

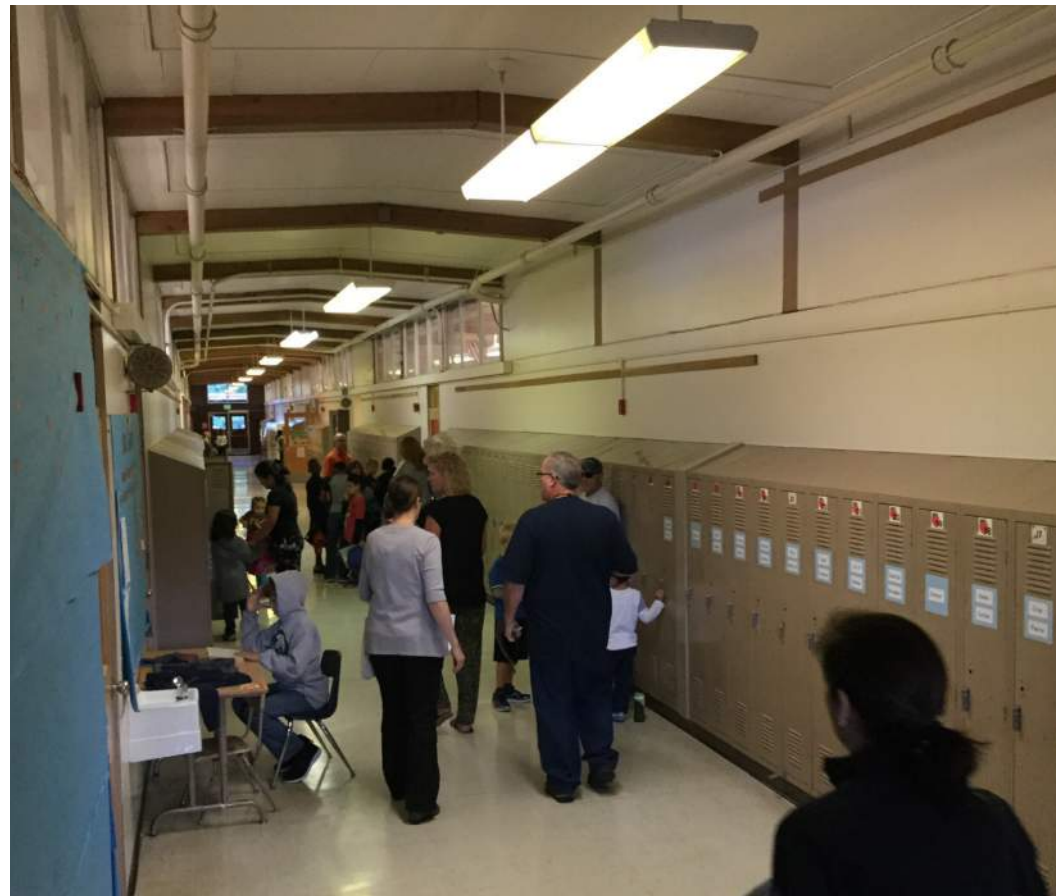
Design Solution + Outcomes

OWNER Edmonds School District	SITE AREA 14 Acres	ARCHITECT Mahlum Architects	LANDSCAPE ARCHITECT Cascade Design Collaborative
LOCATION Edmonds, Washington	BUILDING AREA 80,000 SF	GENERAL CONTRACTOR Forma Construction Company	MECHANICAL/ELECTRICAL Metrix Engineers
OCCUPANCY January 2019	BUDGET \$35.7M	STRUCTURAL ENGINEER Coughlin Porter Lundeen	ELECTRICAL ENGINEERS TFWB Engineers
CAPACITY 650 Students	PREDICTED ENERGY USE 36.6 pEUI	CIVIL ENGINEER KPFF Consulting Engineers	ACOUSTICS A3 Acoustics
GRADES HOUSED K-8			FOOD SERVICE Halliday Associates

Learning Centers

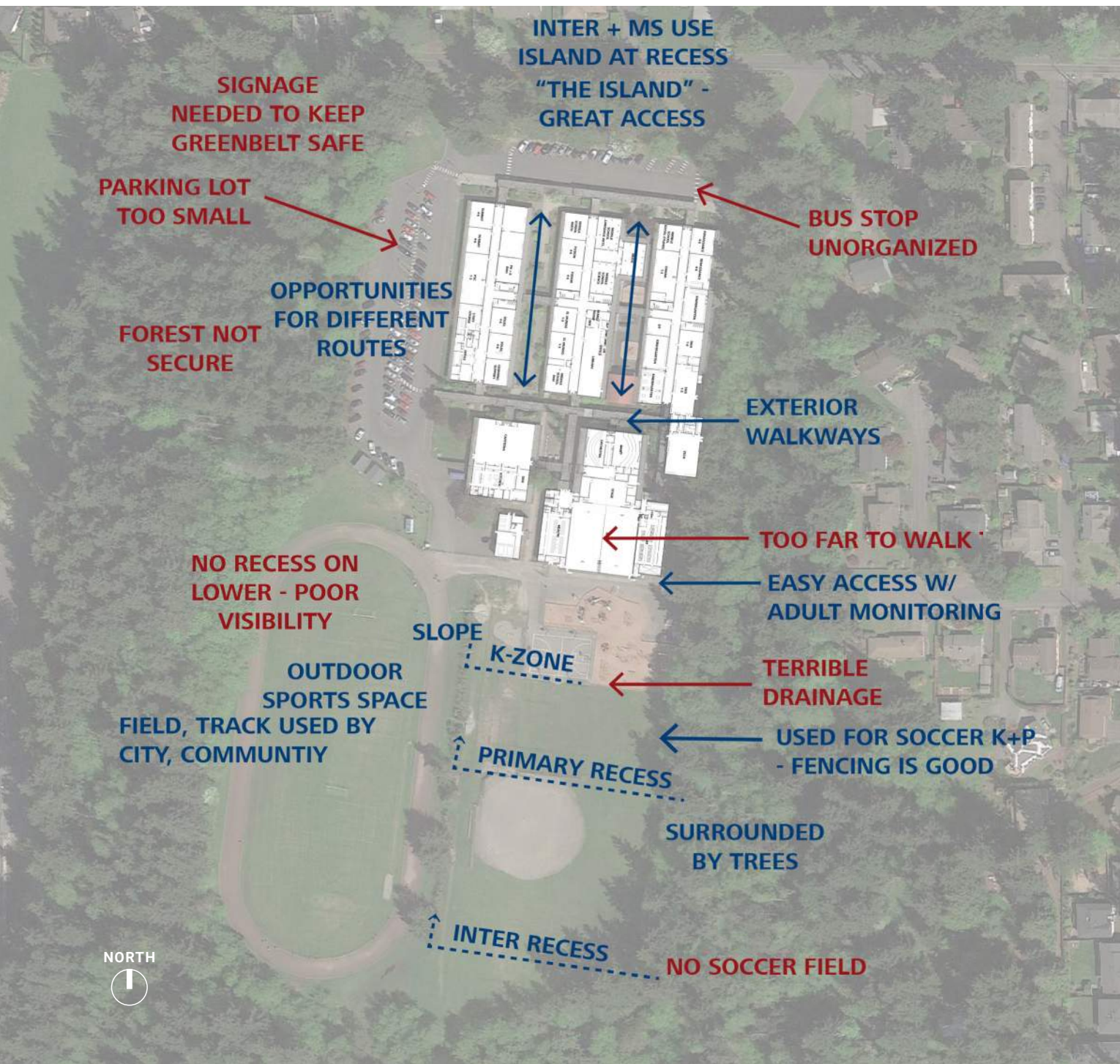
Multi-age K-8

- > 54 Students,
Grades 1-3 and 4-6
- > 2 Educators
- > Includes Regional Deaf
and Hard of Hearing
Program (DHH)



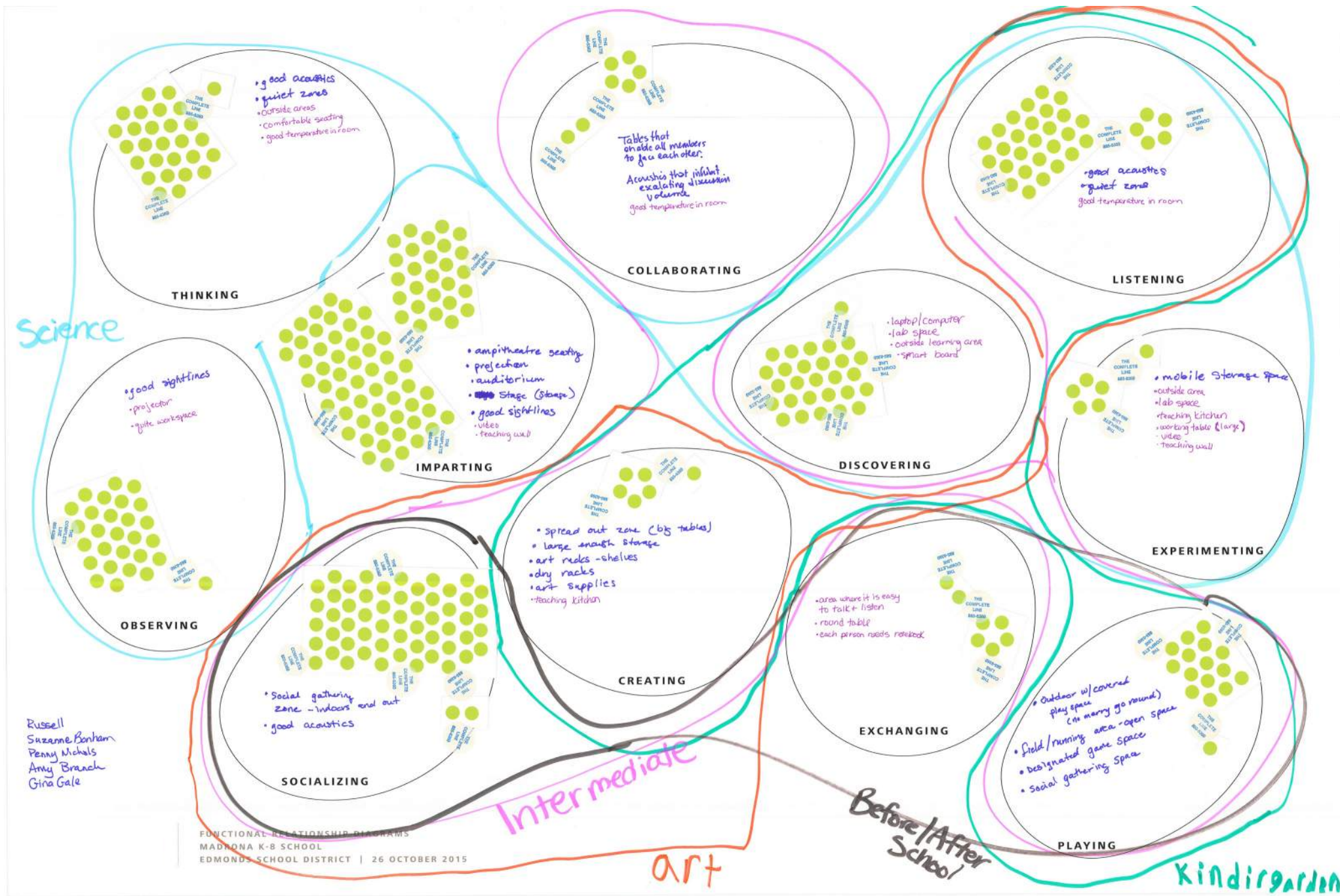
Outdoor Learning & Fresh Air

Student Voice



Functional Programming

Collaborative Learning at Multiple Scales - Indoor/Outdoor



30%

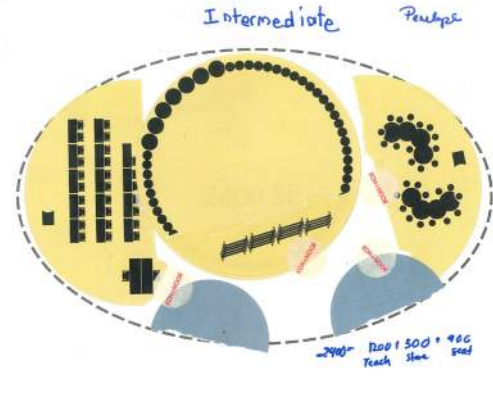
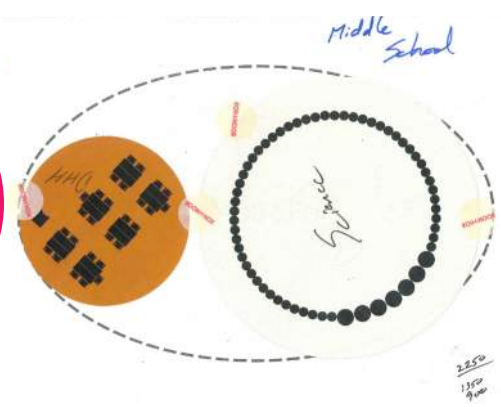
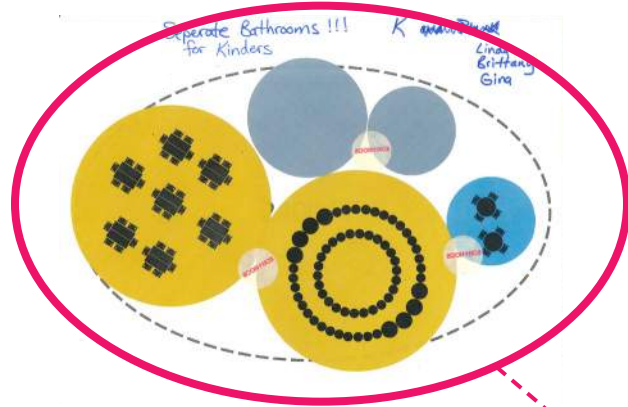
FULL-CENTER/HALF-CENTER ACTIVITY

- Forum/Lecture
- Workshop/Create
- Community/Gather

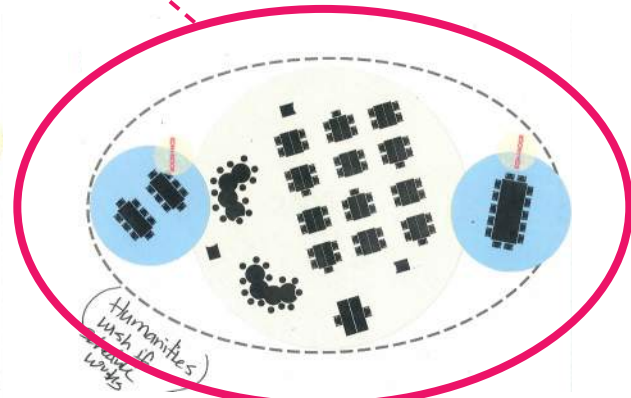
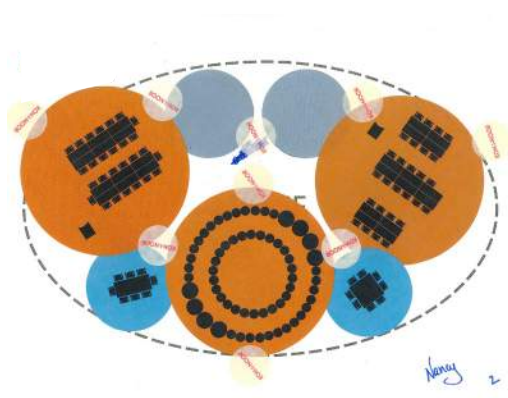
70%

GROUP ACTIVITY (<14 STUDENTS)

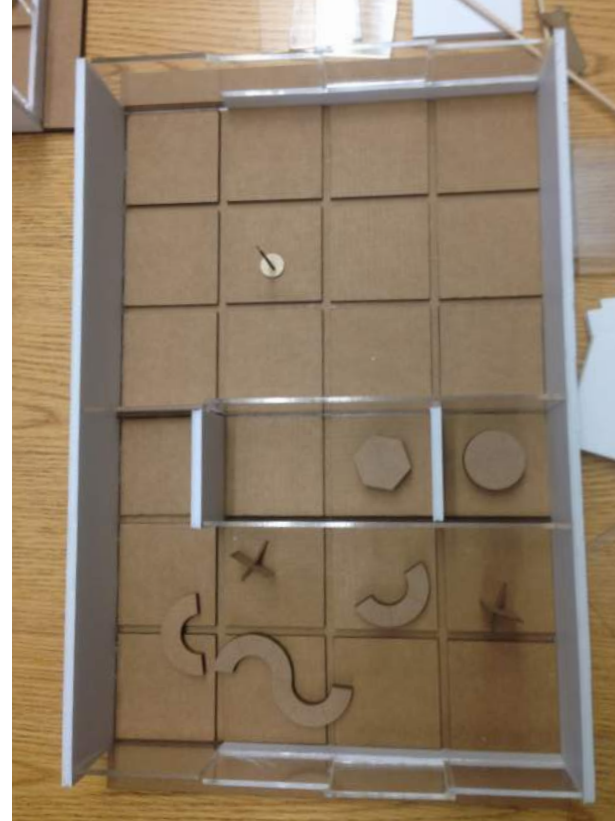
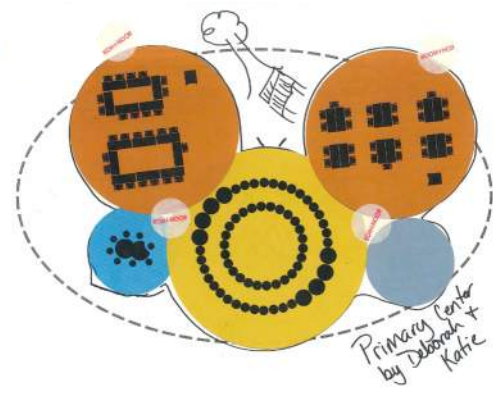
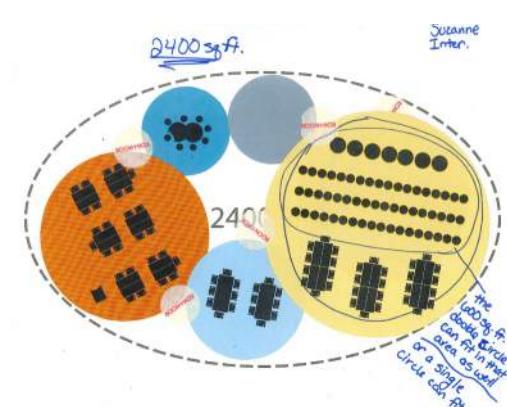
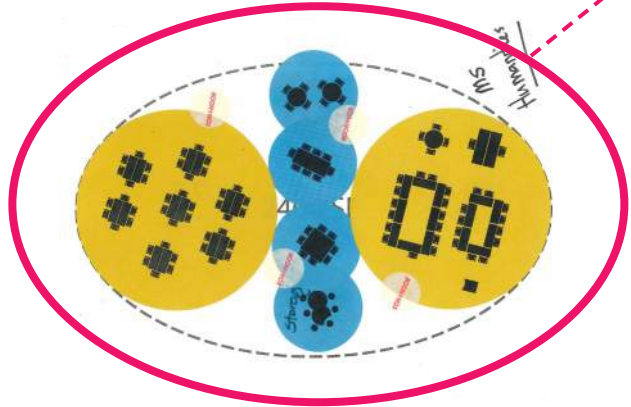
- Project/Activity
- Large Group
- Small Group
- Individual Study



PRIMARY/INTERMEDIATE



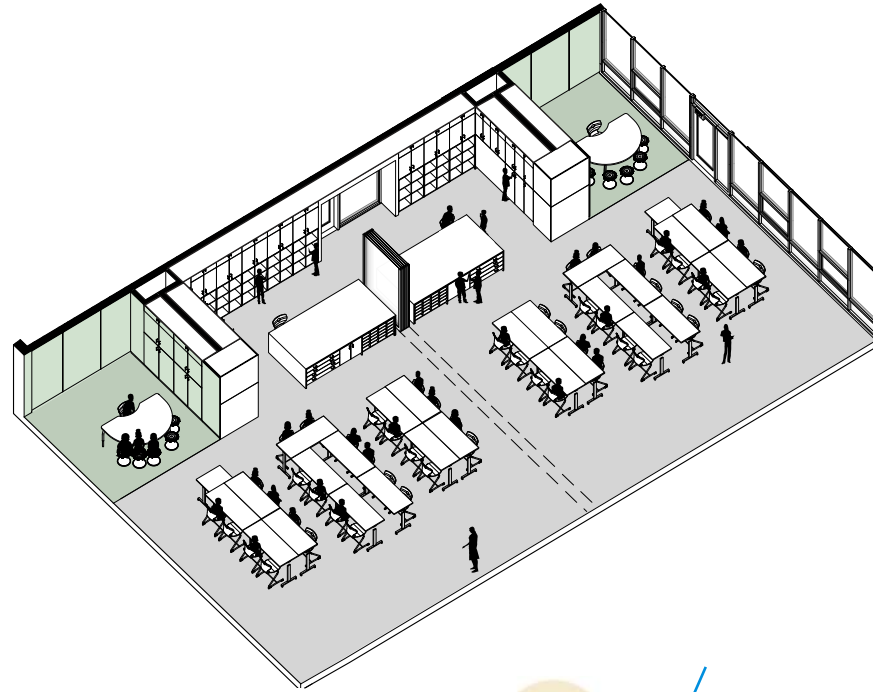
KINDERGARTEN
DHH PRIMARY/INTERMEDIATE
MIDDLE SCHOOL



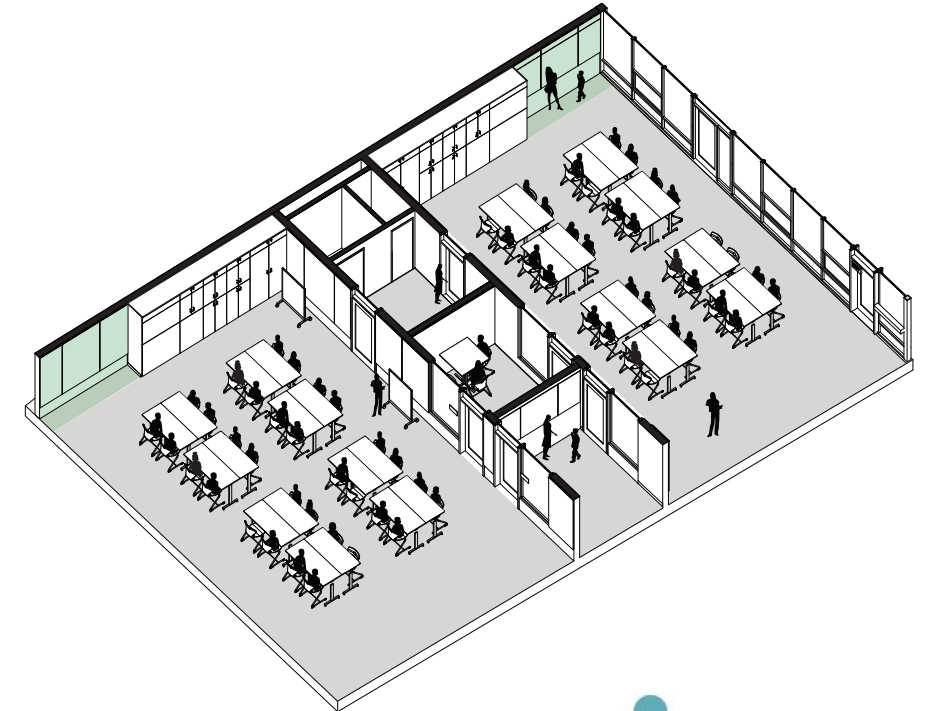
Developmentally Appropriate Centers



Kindergarten



Primary /
Intermediate



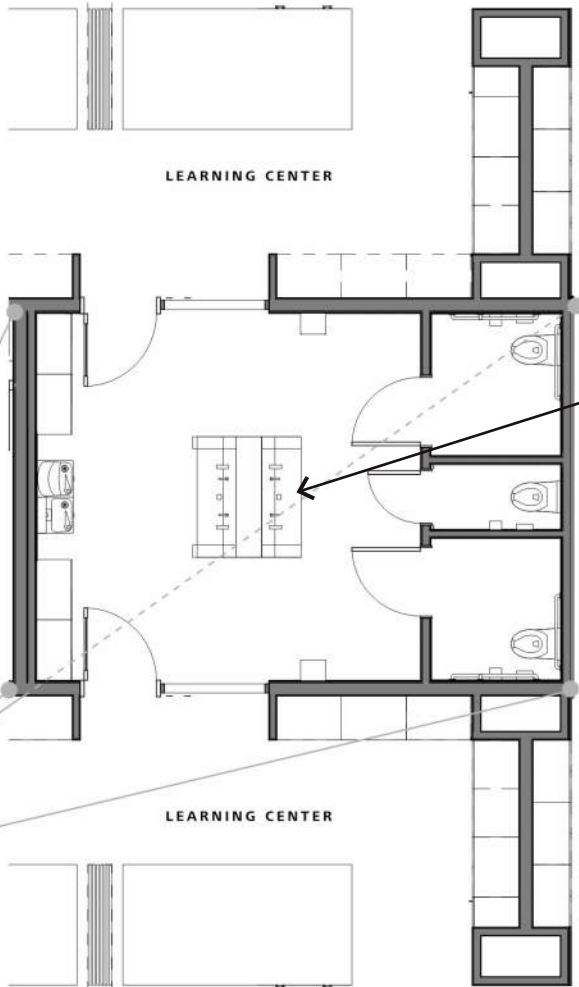
Primary /
Intermediate DHH
and
Middle School

Flexible Learning Environments

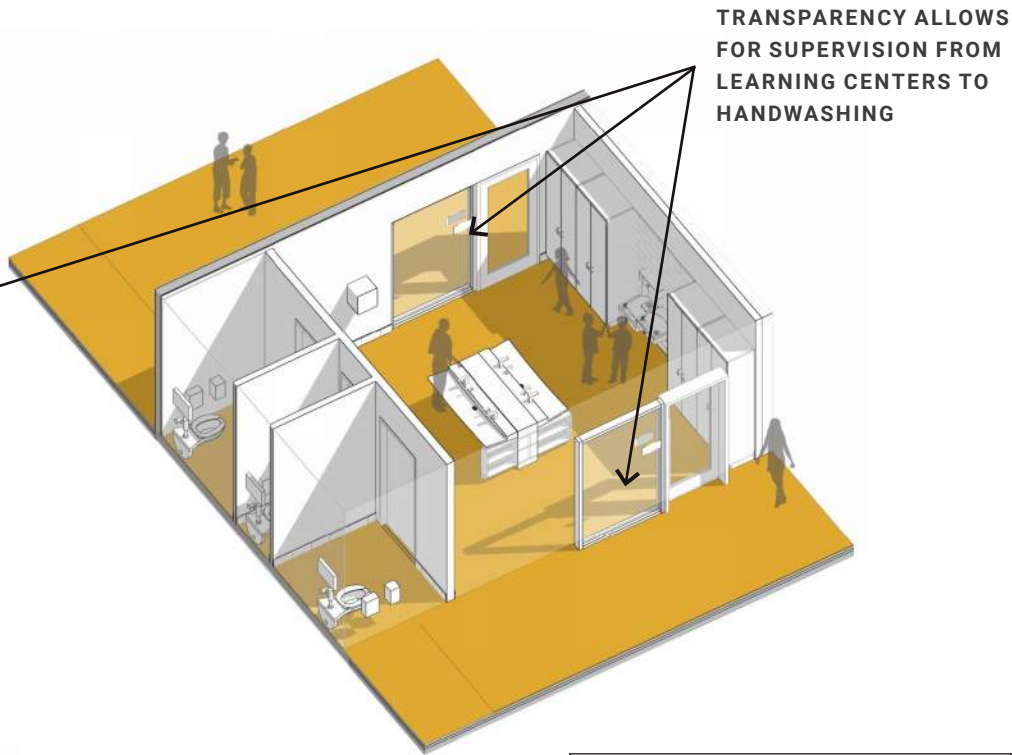
Inclusive Toilet Rooms



FLOOR PLAN:
LEARNING CENTER TOILETS



ENLARGED PLAN:
LEARNING CENTER TOILETS



AXONOMETRIC VIEW:
LEARNING CENTER TOILETS



Cultivating Community

Interwoven Ages

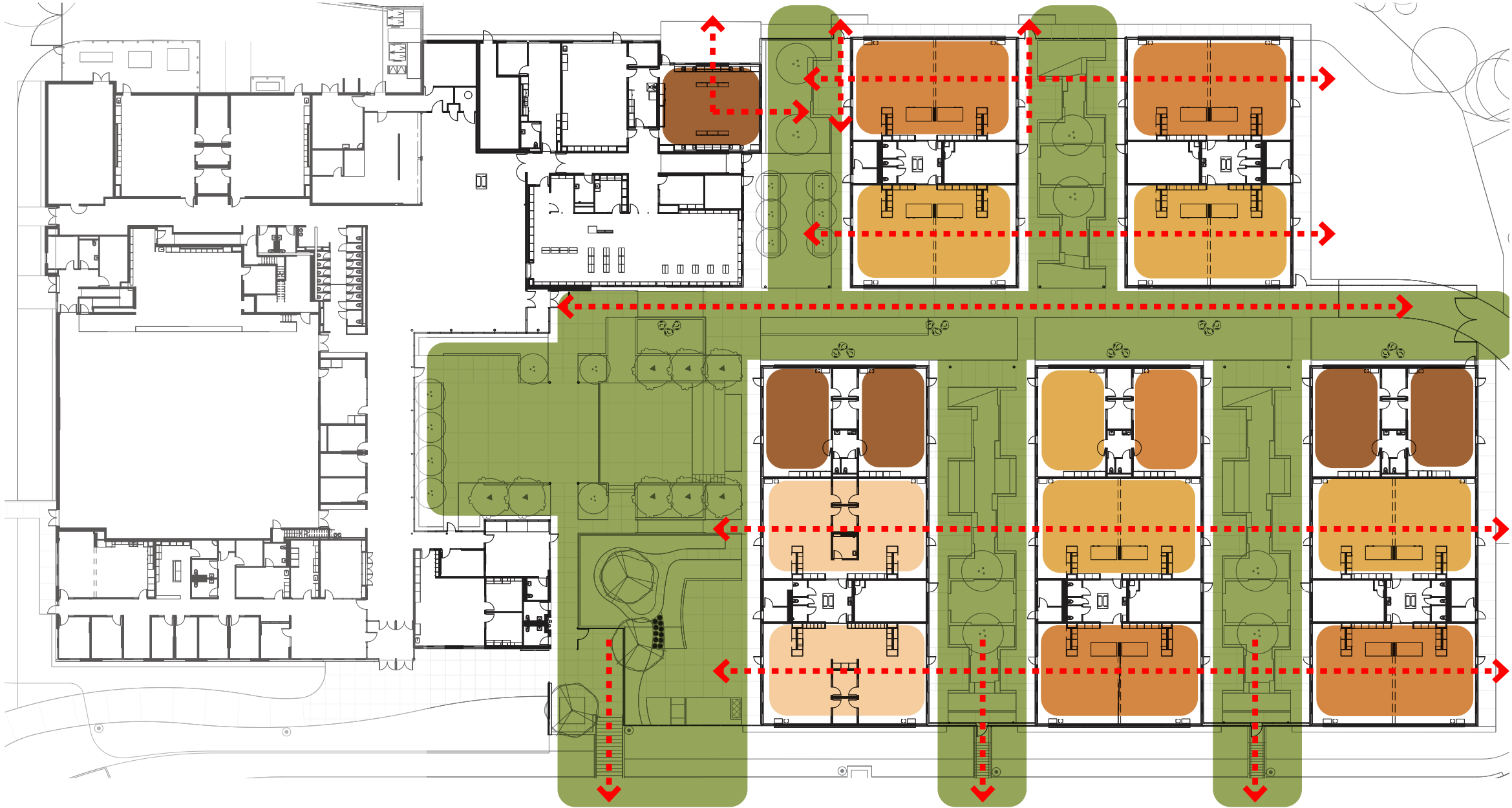
- Kindergarten Learning Center
- Primary Learning Center
- Intermediate Learning Center
- Middle School Learning Center



Cultivating Community

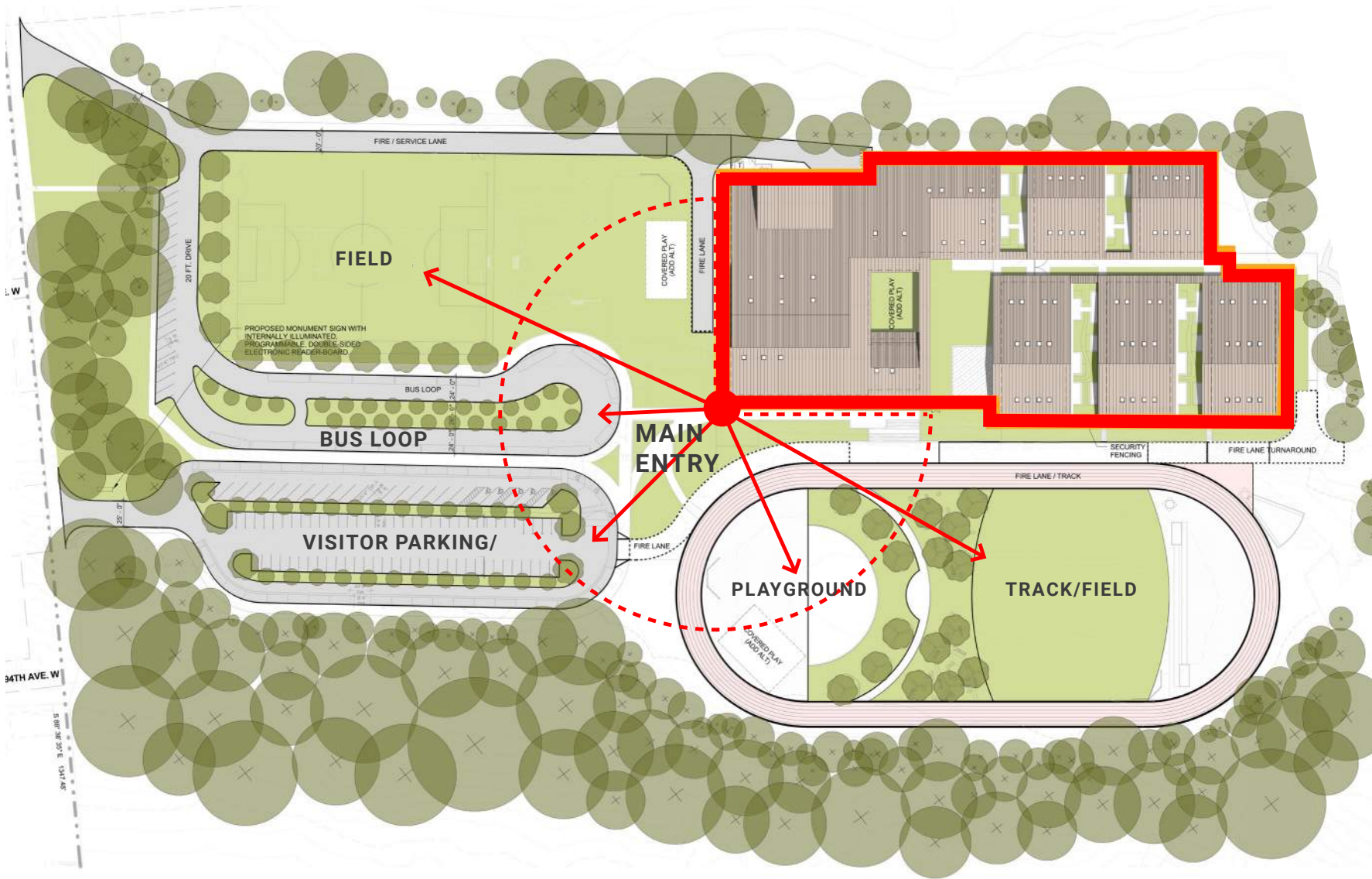
Quilt of Learning

- Kindergarten Learning Center
- Primary Learning Center
- Intermediate Learning Center
- Middle School Learning Center
- Outdoor Learning



Secure Perimeter

Indoor Outdoor Connectivity

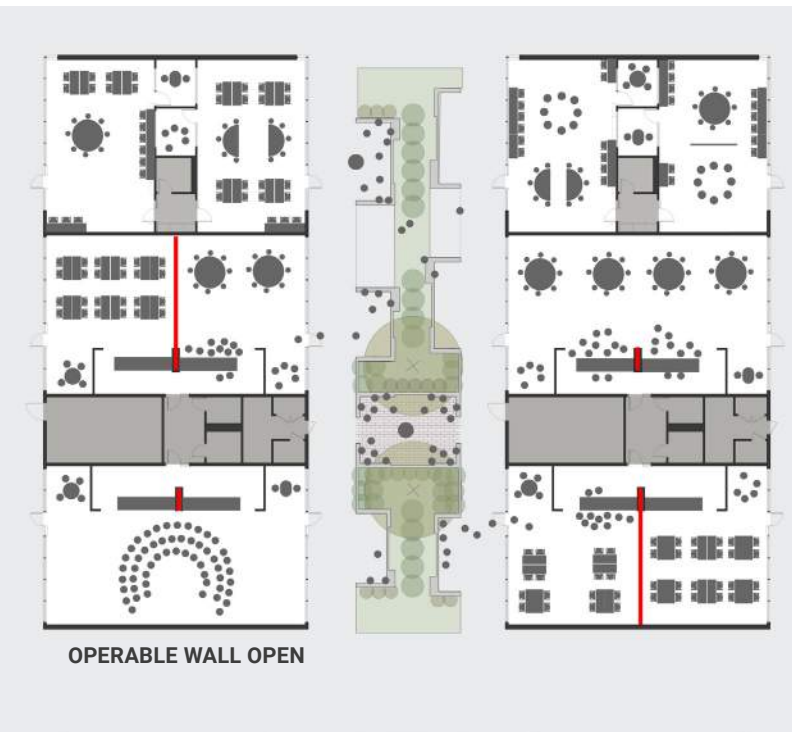


Daylighting and Acoustics



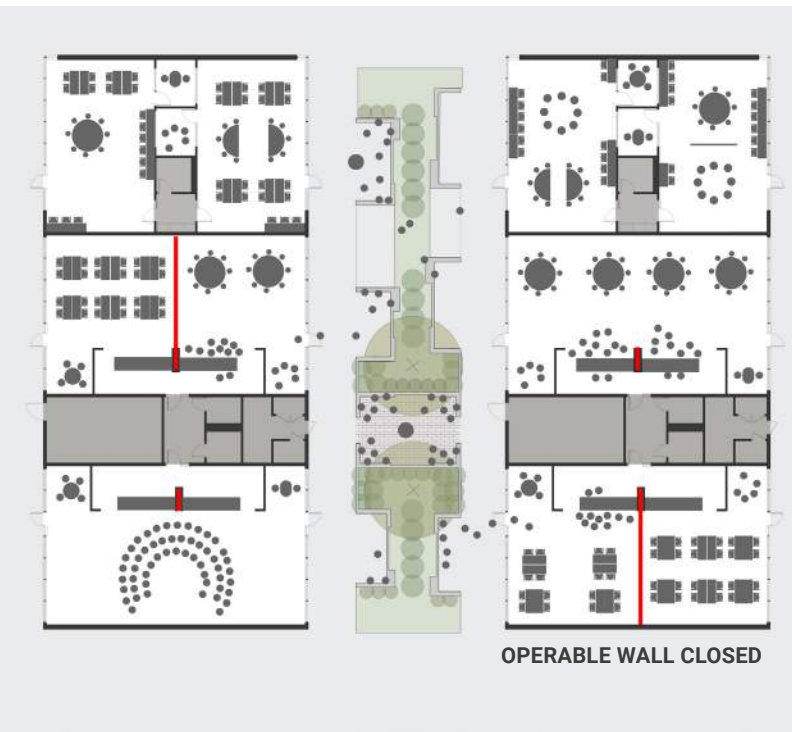
Flexible Learning Environments

Interior - Exterior Connectivity



Flexible Learning Environments

Interior - Exterior Connectivity



Flexible Learning Environments

Interior - Exterior Connectivity



Flexible Learning Environments

Individual - Small to Large Group

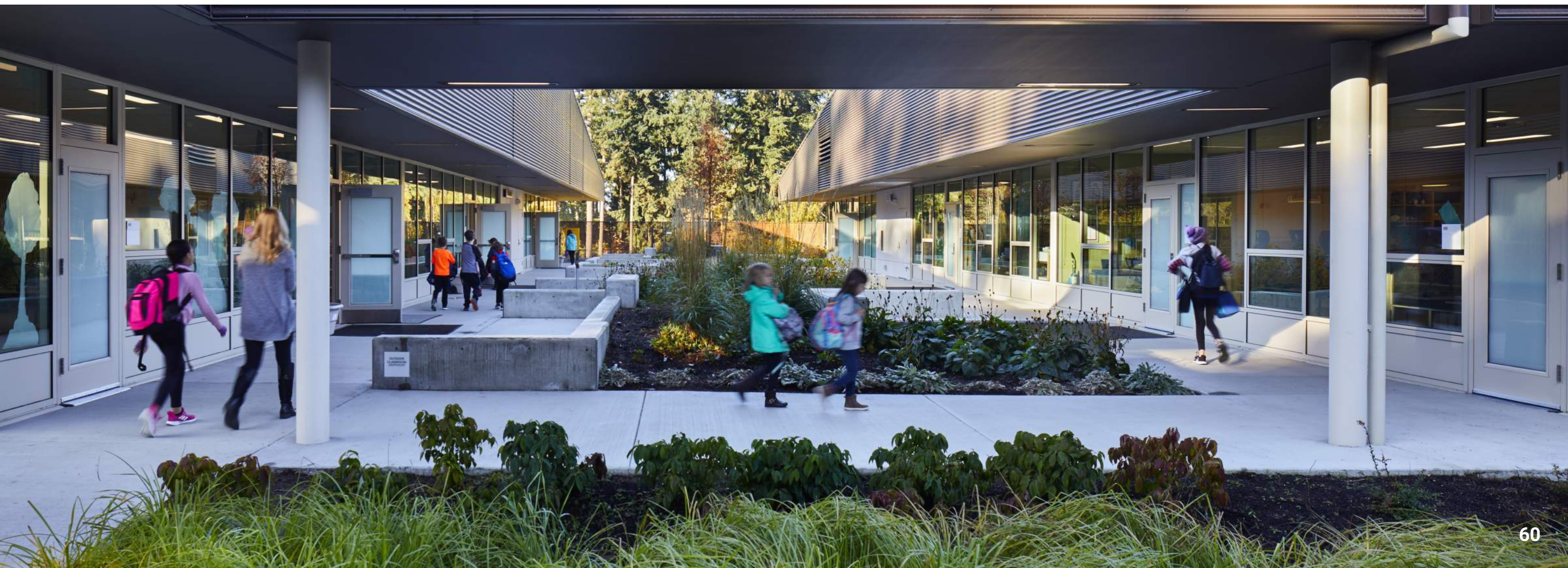
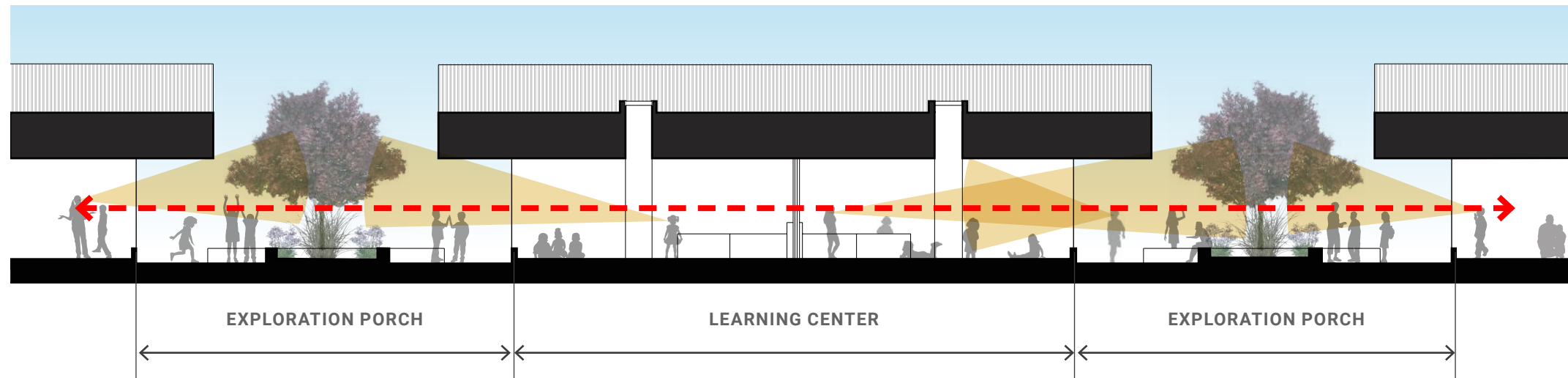


Flexible Learning Environments

Whole Building / School

HEADLINE

Madrona Puts on a Grand Opening Outdoor Concert



Positive Social Interactions



Respect



Conclusions & Questions

Impact on Future Projects

Design of the next Lake Oswego Middle School



Post Occupancy Evaluation

Educational Specification Updates



Thank you!

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