Re-Envisioning Juvenile Justice Educational Environments: Inspire, Integrate, Innovate.

Summary

- In partnership with the AAJ University Outreach Committee, Gregory Luhan, PhD, a full professor and Associate Dean at the University of Kentucky, College of Design, collaborated with the Association for Learning Environments (A4LE) to explore learning environments within juvenile facilities. Students in Dr. Luhan's studio sought innovative and research-driven design solutions for educational programs and settings that encourages entrepreneurship and allows juvenile offenders to gain skills, training, and assets, equipping the youth to pursue an alternative lifestyle, beyond the one from which they came.

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Course Description

This panel presentation, which complements an exhibit, explores how the student projects respond to various site conditions, incorporate high-performance features, and offer accessible, activity-based, sensory-rich, developmentally appropriate and flexible environments – all designed to address the special needs of incarcerated youth. The student's ideas and innovative concepts offers a fresh perspective: transforming a juvenile facility with education classrooms into a specialized educational facility for incarcerated youth.

Learning Outcomes

1. Participants will be able to identify 21st century learning spaces across a variety of sites and topics.
2. Participants will be able to recognize benefits of an iterative process to develop a solution addressing gaps in the system.
3. Participants will be able to recognize innovative solutions that connect youth to community resources and experts in emerging industries.
4. Participants will be able to explain an innovative design solution utilizing sustainable practices in a developmentally appropriate and multi-sensory environment.

Panel

Stacey Wiseman

April Pottorff, FAIA

Eileen Van Hoose

Gregory Luhan, PhD, AIA

Terrence Dankwa

Grant Shaw

gregory luhan | studio

03 march 2017

ORANGE
is the new BLACK

WHAT HAPPENED
THE NIGHT OF

people

people
community

people
community
environment

evidence based design

2A

Qwest

beacon of hope

A4LE

Mission & Vision
The Association for Learning Environments is a professional non-profit association whose sole mission is improving the places where children learn.

The Association for Learning Environments believes that:

- Facilities impact the learning, development and behavior of the facility user;
- The planning process is essential for quality facilities;
- Sharing and networking improves the planning process; and
- There is a standard by which to measure.

History:
The Association for Learning Environments was first established in 1921 as the National Council on Schoolhouse Construction (NCSC) then becoming Council of Education Facility Planners International (CEFPI) in 1971. It took its current name in 2015

Mission:
The Association for Learning Environments is the primary advocate and resource for effective educational facilities. We serve those who use, plan, design, construct, maintain, equip and operate educational facilities.

Vision:
The Association for Learning Environments is the advocate for excellence in student learning environments.

A4LE + University of Kentucky

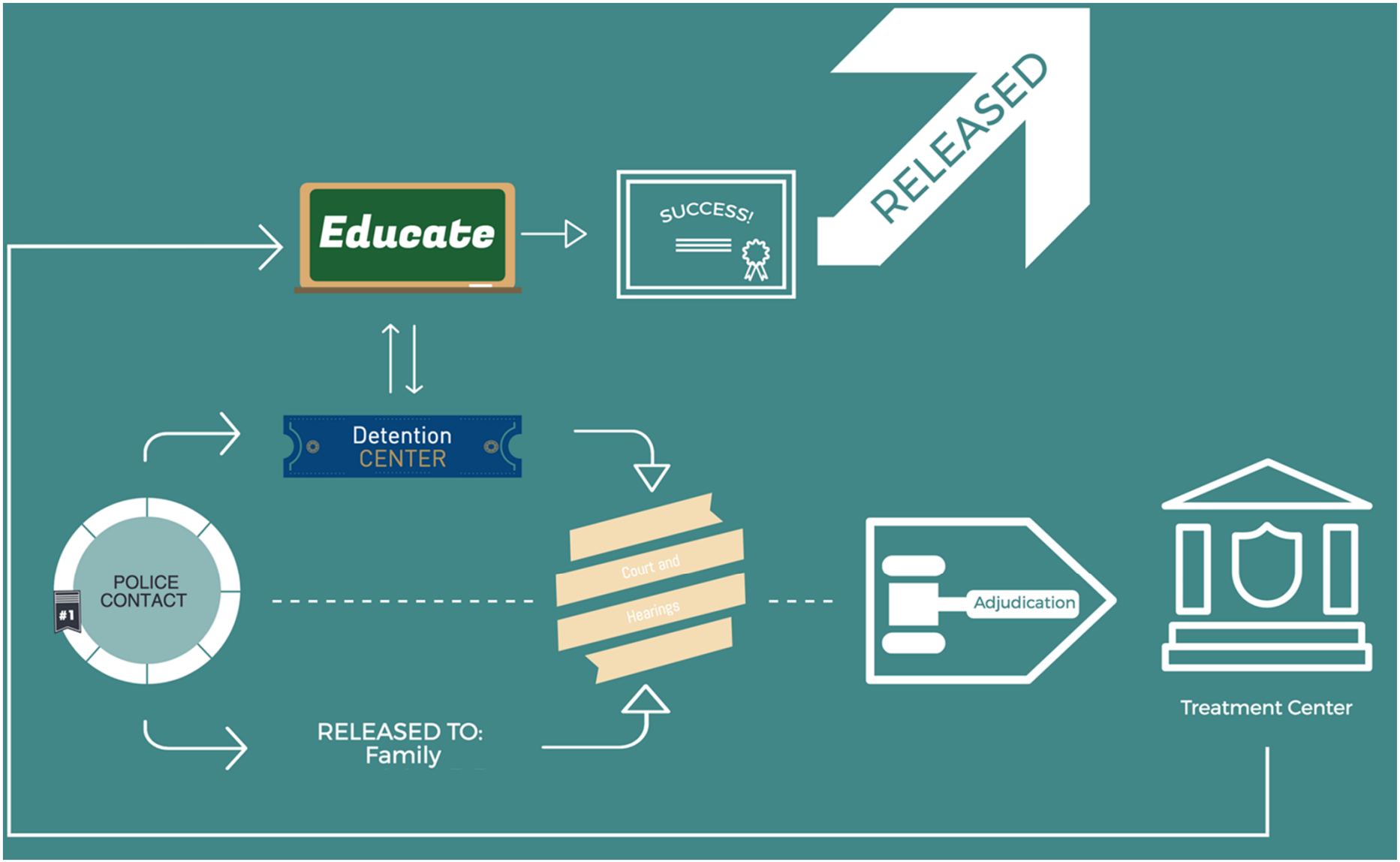
Partnership
The Association for Learning Environments (A4LE) and the University of Kentucky College of Design created an innovative partnership to support the study, research, and project development of 21st Century Learning Environments. The intent is to support the alignment of student design passions with real-world projects and to develop solutions at a scale that can foster discovery and innovation. This partnership has enabled research in the areas of special needs, performing arts, creative arts, culinary arts, entrepreneurship, agriculture, and STEM/STEAM education.

Scholarships:
The A4LE Architecture Studio Awards consisting of $1,000 and $500 stipends are given each semester to two (2) College of Design third-year architecture studio students who demonstrate excellence in design focused on learning environments. The Gift shall be used to fund the Awards during the 2016-2017, 2017-2018 and 2018-2019 academic years.

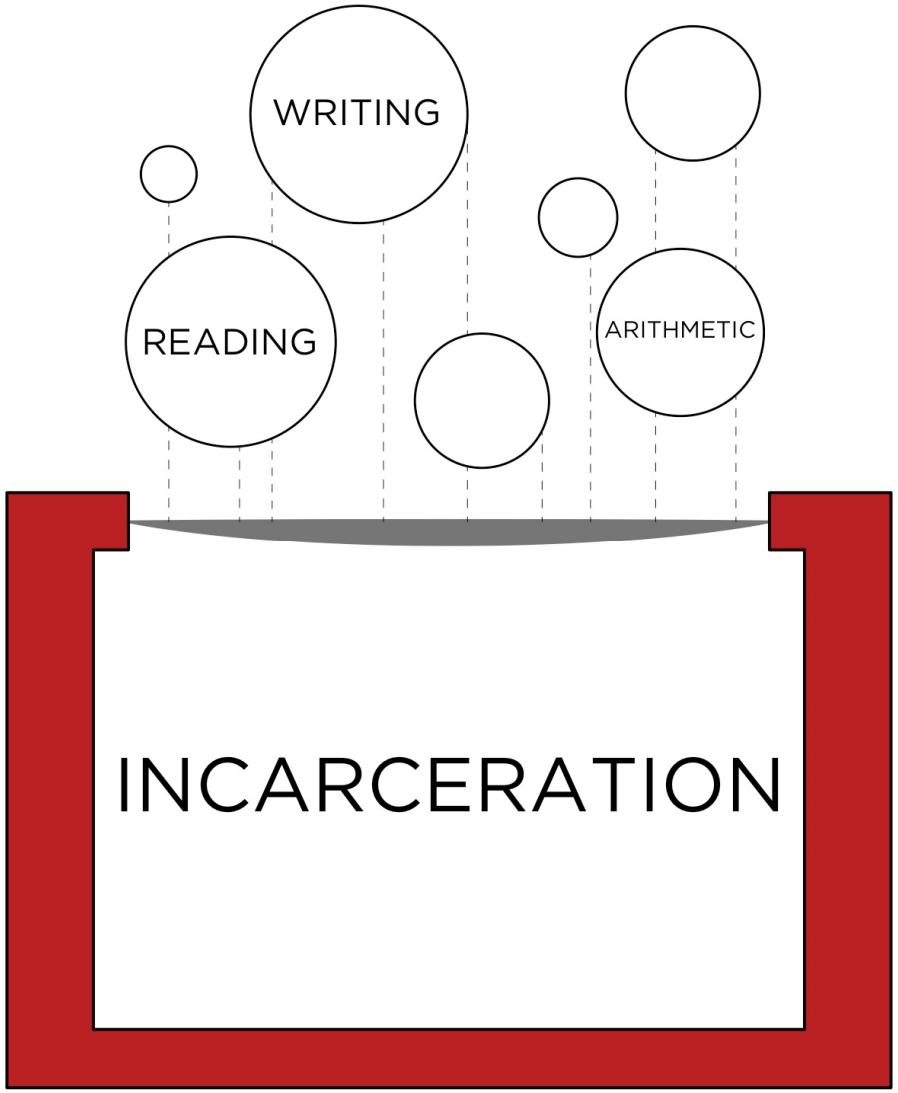
The Awards shall be presented to the two (2) students whose work best meet the following criteria, as determined by Jury:

a. Design research – problem solving.
b. Design Iteration – data collection and analysis.
c. Data evaluation – integrative learning
d. Communication – written and graphic.

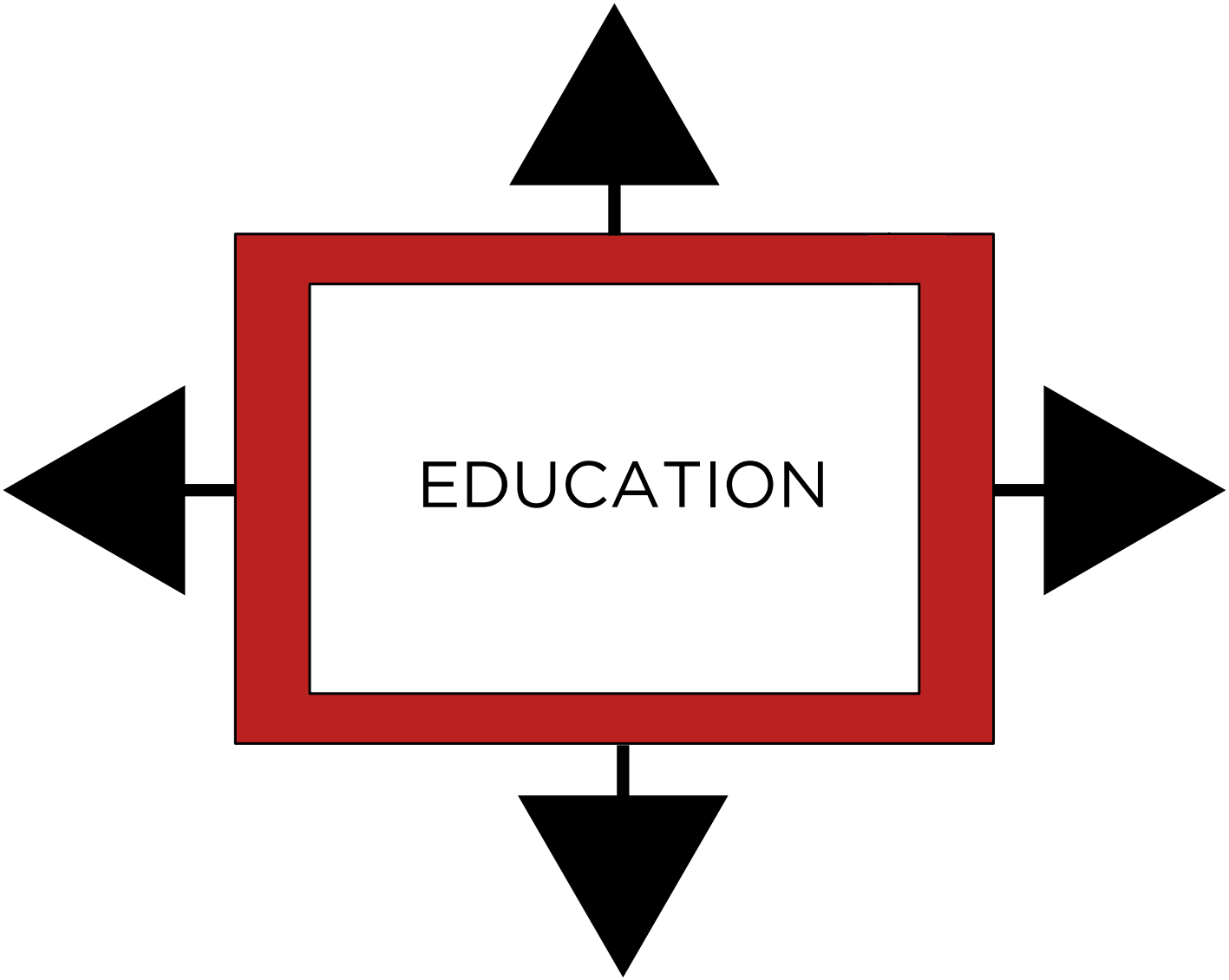
JUVENILE JUSTICE WORKFLOW

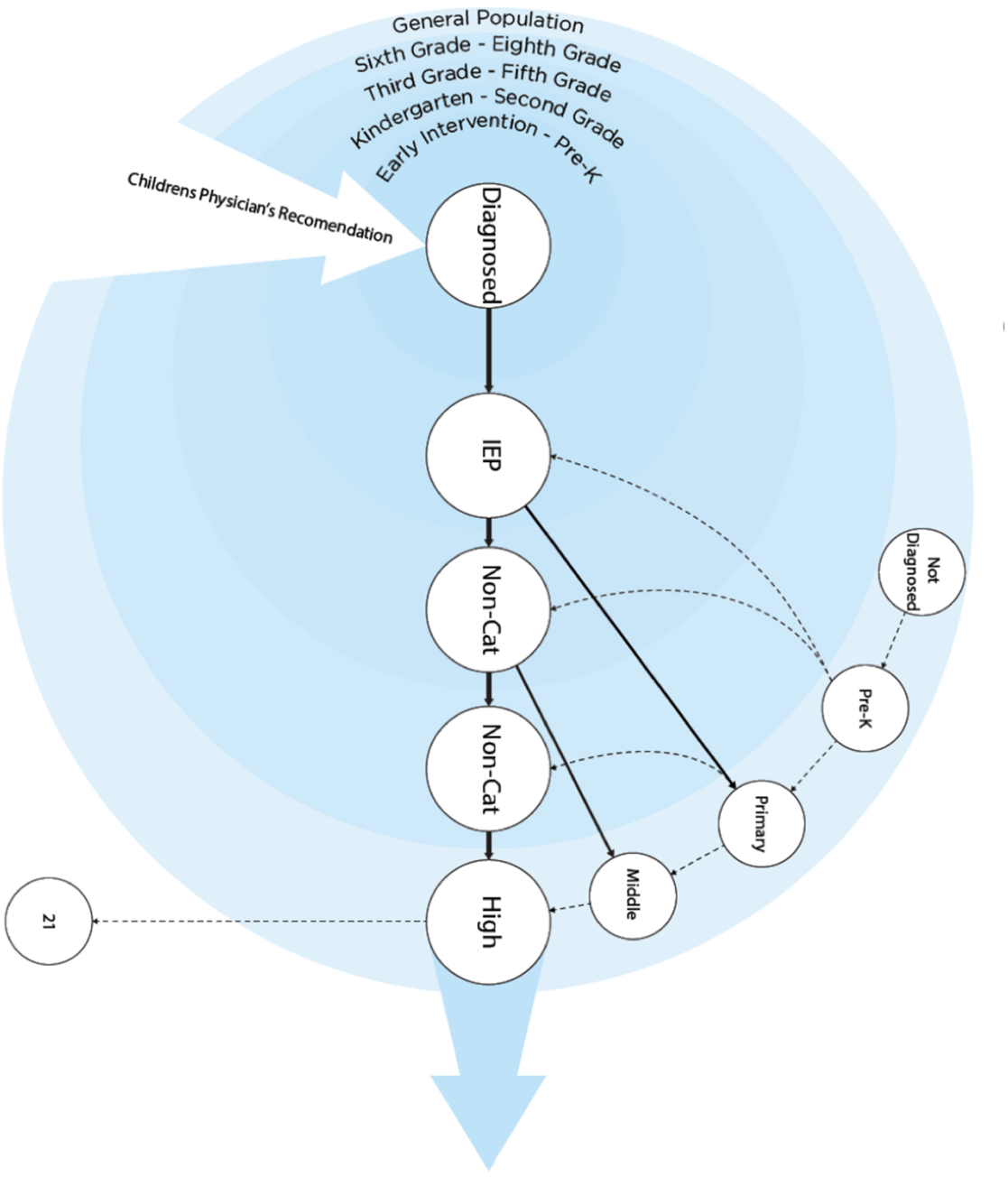


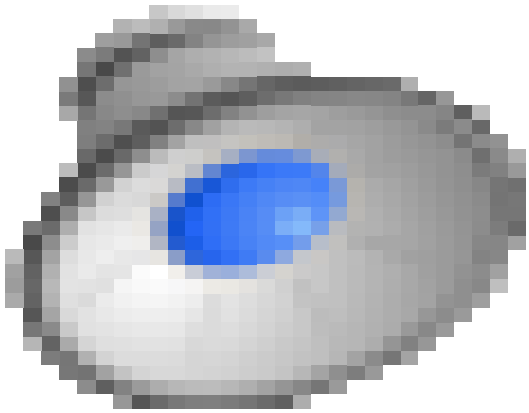
TYPICAL EDUCATION MODEL



REVISED EDUCATION MODEL




General Population
Sixth Grade - Eighth Grade
Third Grade - Fifth Grade
Kindergarten - Second Grade
Early Intervention - Pre-K
Childrens Physician's Recomendation
Diagnosed
IEP
Non-Cat
Non-Cat
High
21
Not Diagnosed
Pre-K
Primary
Middle
MAINSTREAM



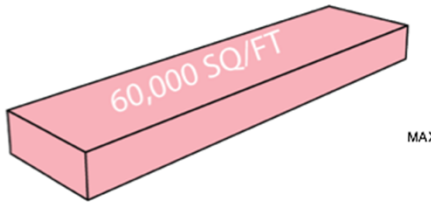
MAINSTREAM - VIDEO

SPECIAL NEEDS & ADVANCING EDUCATION

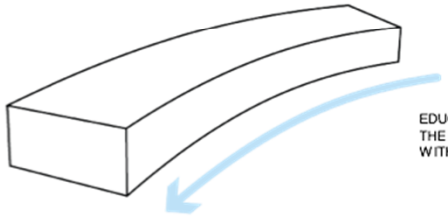
INTEGRATE

MAINSTREAM

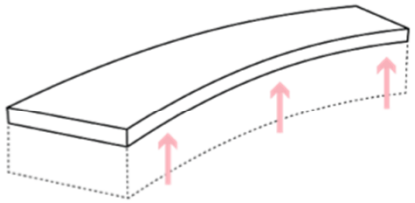
Process Diagram



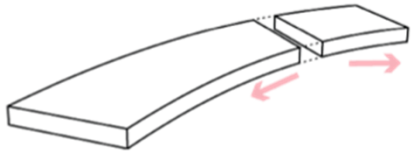
MAXIMUM BUILDING VOLUME



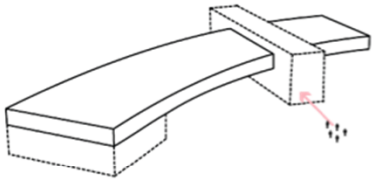
EDUCATION CURVED TO REPRESENT THE LEARNING CURVE OF A CHILD WITH A COGNITIVE DISABILITY



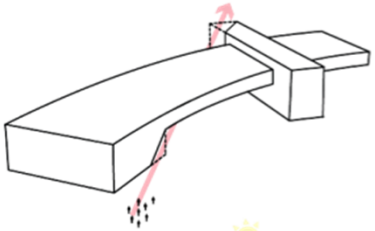
EDUCATION PIPELINE LIFTED



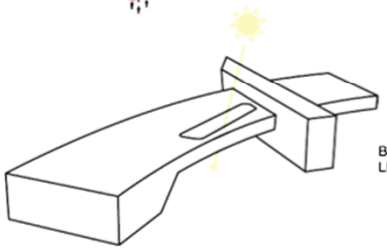
EARLY INTERVENTION SEPARATED FROM 1ST-8TH



MAIN ENTRANCE INSERTED (HALL OF LIGHT BRINGS AWARENESS TO COGNITIVE DISABILITIES)



BUILDING SLICED TO ALLOW PEDESTRIAN ACCESS



BUILDING CUT THROUGH TO ALLOW SUN LIGHT UNDERNEATH

SPECIAL NEEDS & ADVANCING EDUCATION

INTEGRATE

MAINSTREAM

SPECIAL NEEDS & ADVANCING EDUCATION

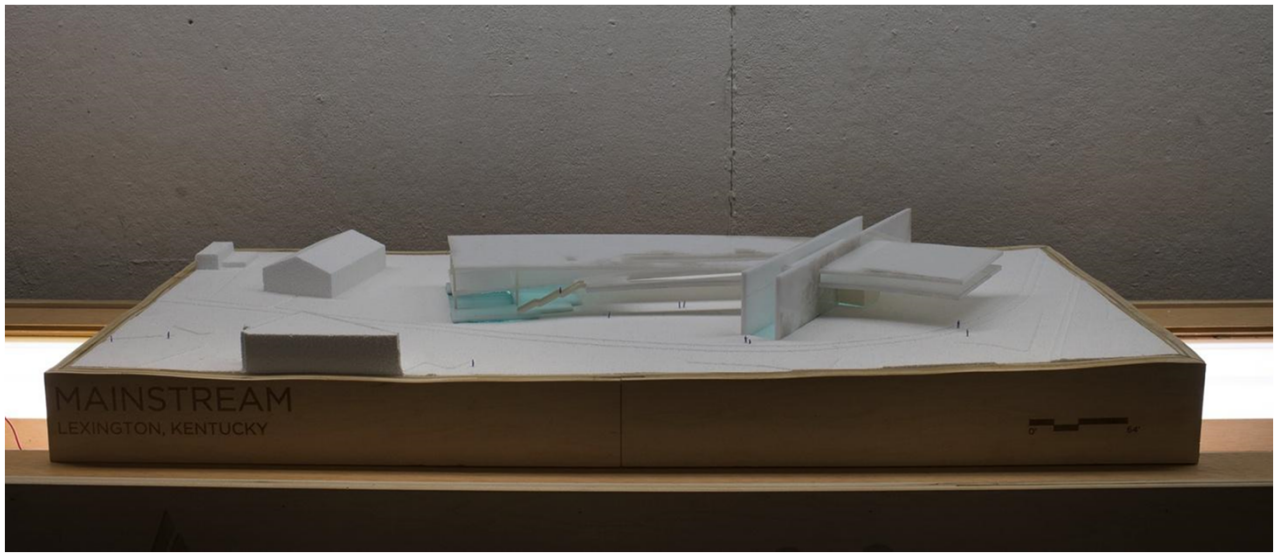
INTEGRATE

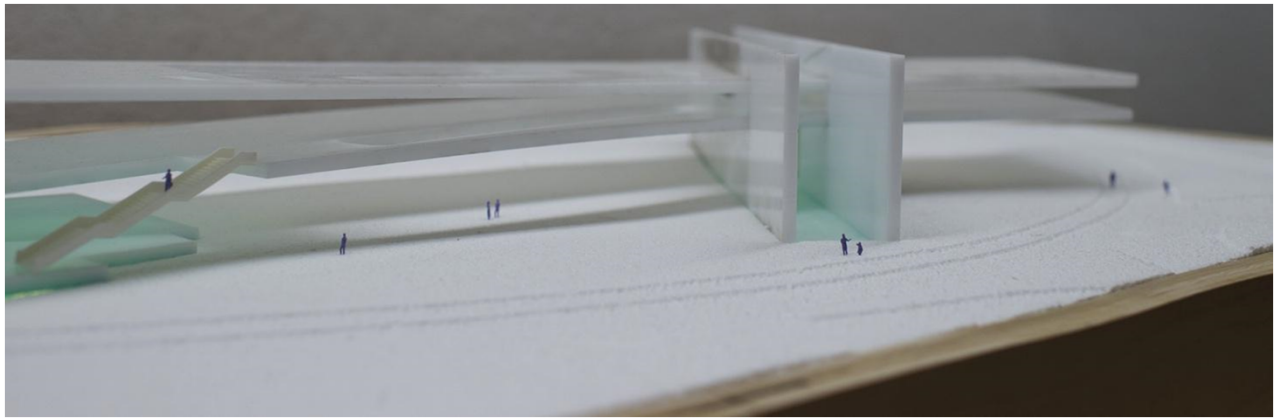
MAINSTREAM

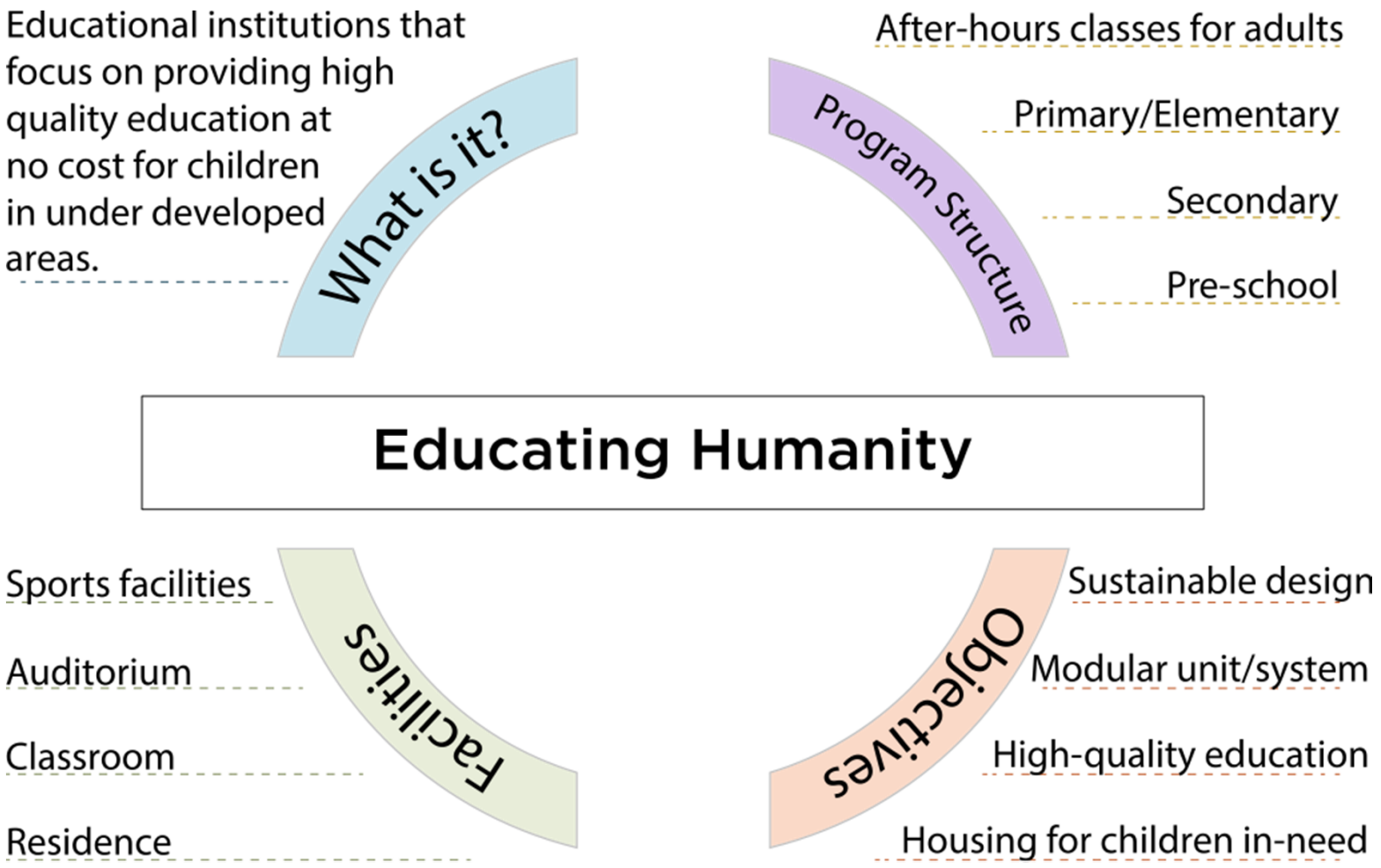
SPECIAL NEEDS & ADVANCING EDUCATION

INTEGRATE

MAINSTREAM



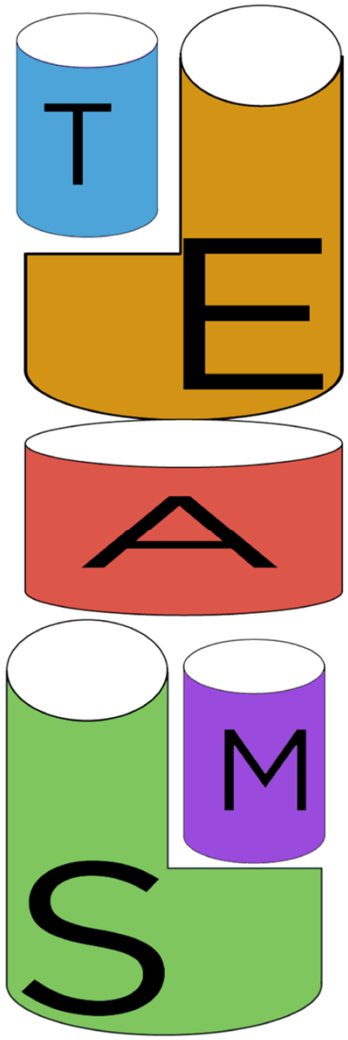


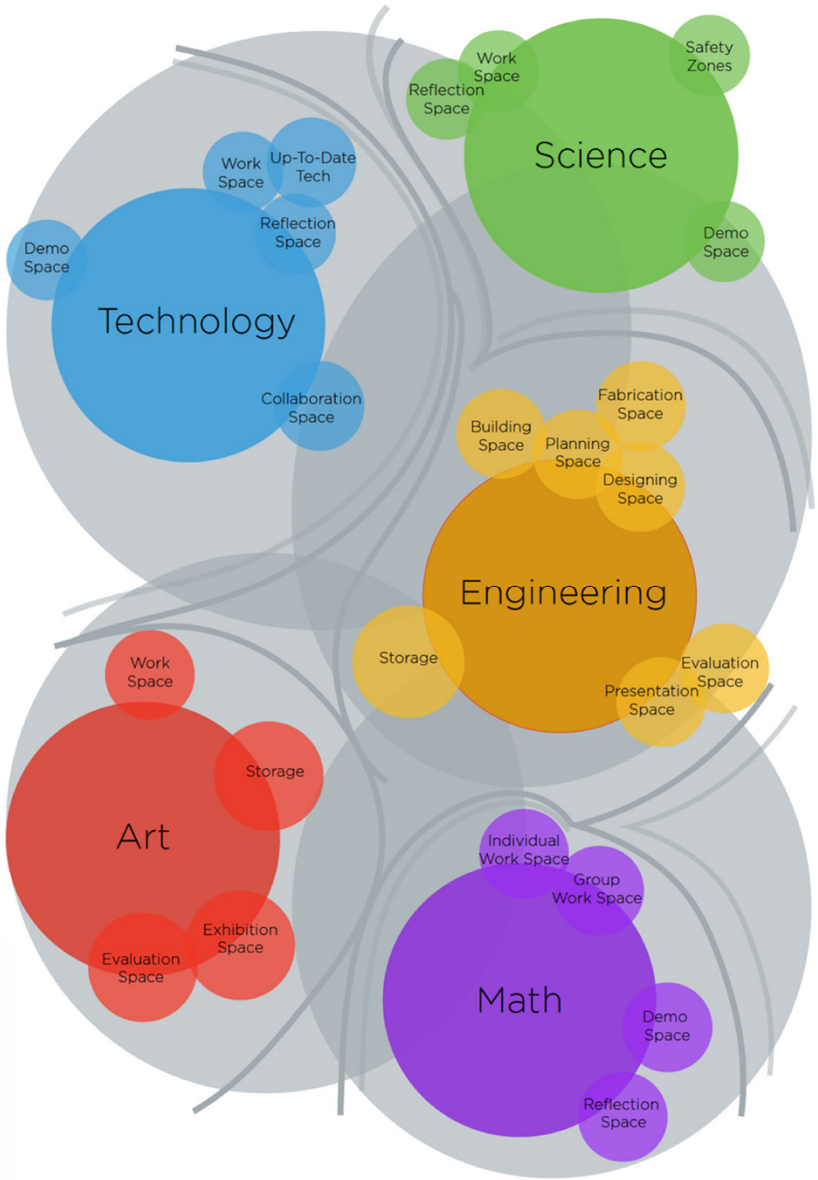

Educational institutions that focus on providing high quality education at no cost for children in under developed areas.
What is it?
Program Structure
After-hours classes for adults
Primary/Elementary
Secondary
Pre-school
Educating Humanity
Facilities
Sports facilities
Auditorium
Classroom
Residence
Objectives
Sustainable design
Modular unit/system
High-quality education
Housing for children in-need

STEM/STEAM EDUCATION - ARTS & CREATIVITY

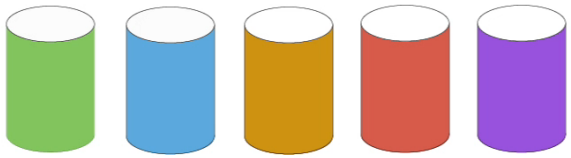
INSPIRE

STEM/STEAM





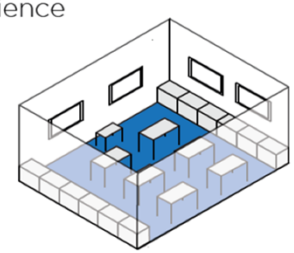
STEM/STEAM-VIDEO



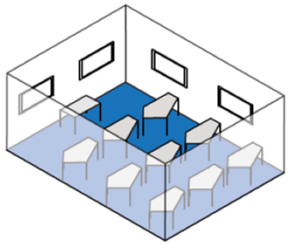
STEM/STEAM

Classroom Types

Science

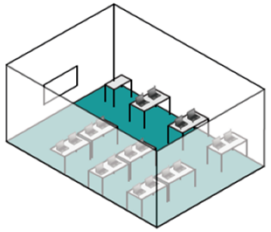


Medical Lab
38x30x13=1140 ft2

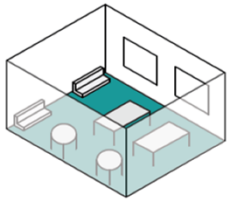


Wet Science Lab
30x38x13=1140 ft2

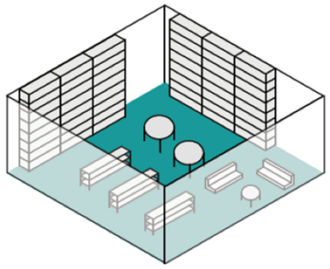
Technology



Computer Lab
27x38x13=1026 ft2

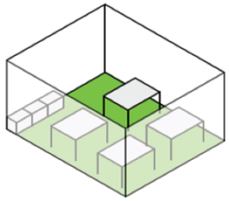


Design Studio
25x30x13=750 ft2

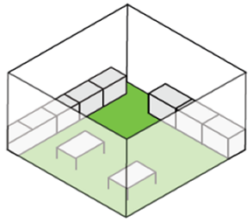


Library
30x30x13=1140 ft2

Engineering

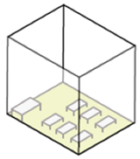


Engineering Lab
25x30x13=750 ft2

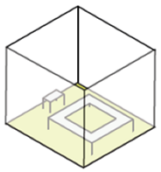


Workshop
30x30x13=900 ft2

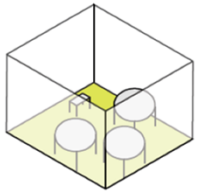
Math



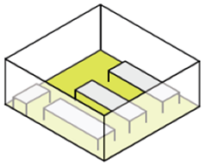
10-20 students
14x18x13=252 ft2



20-30 students
18x20x13=360 ft2



30-40 students
22x25x13=550 ft2

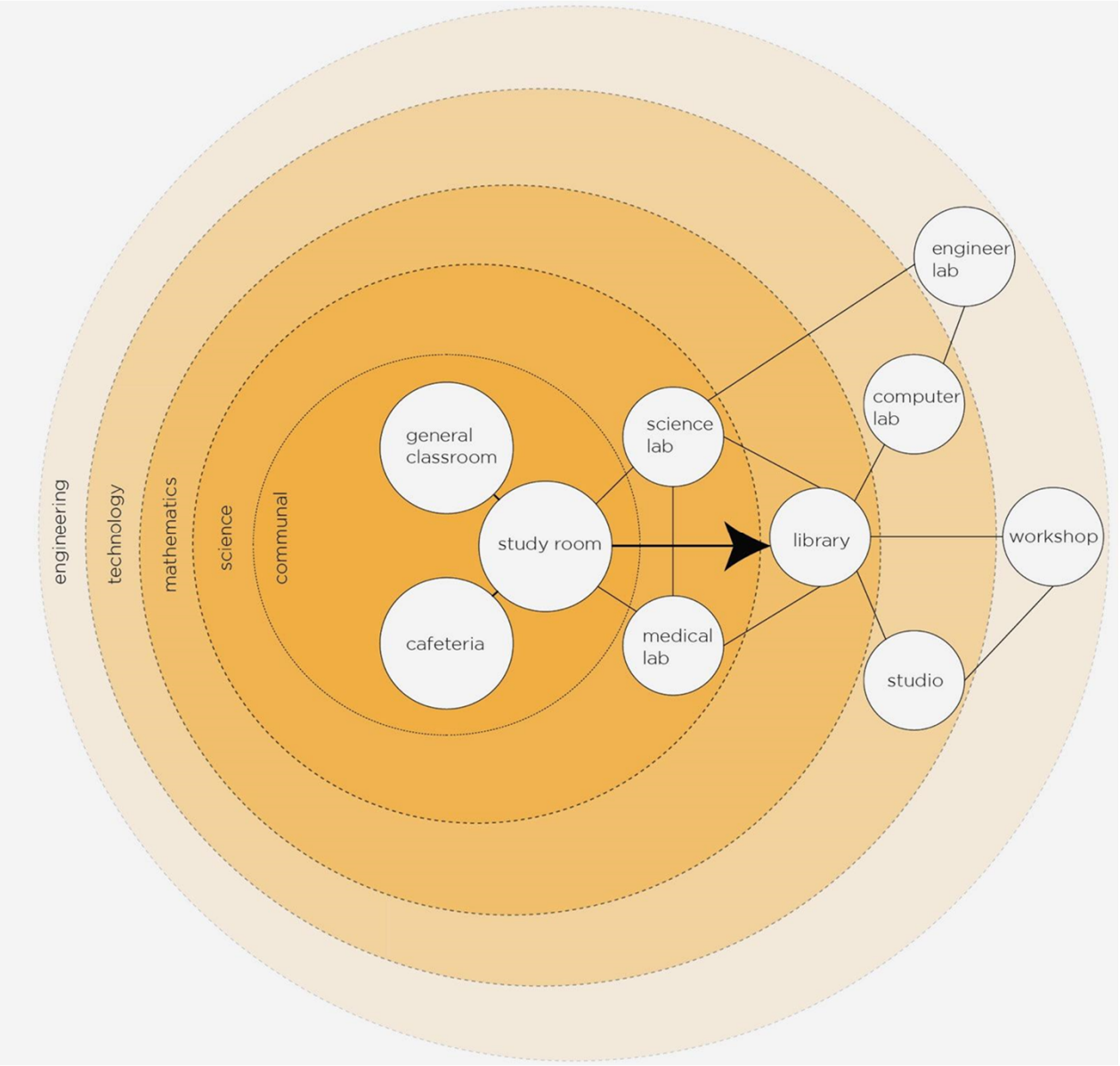


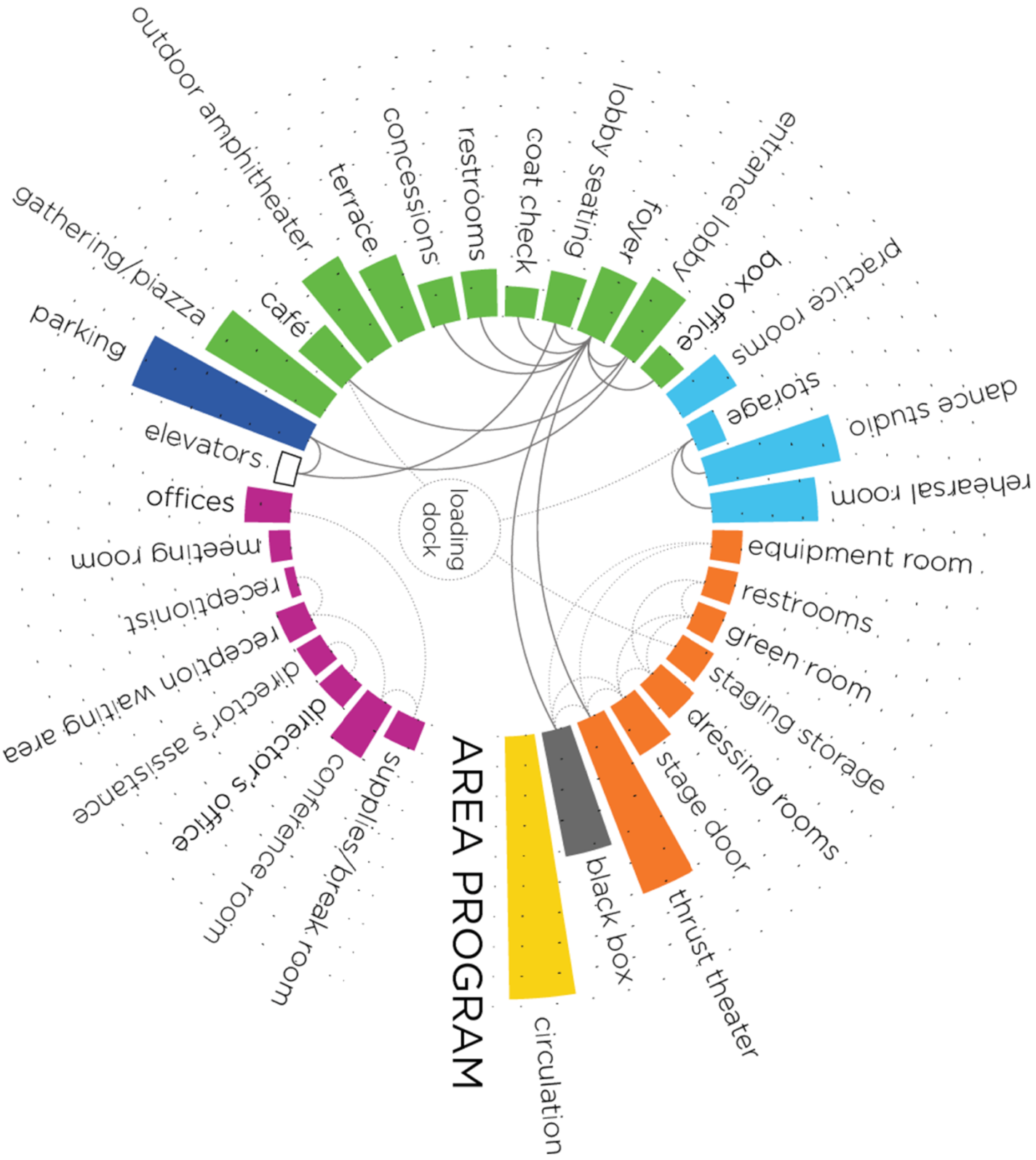
30-40 students
24x25x13=600 ft2

STEM/STEAM EDUCATION - ARTS & CREATIVITY

INSPIRE

STEM/STEAM




AREA PROGRAM
circulation
black box
thrust theater
stage door
dressing rooms
staging storage
green room
restrooms
equipment room
rehearsal room
dance studio
storage
practice rooms
box office
entrance lobby
foyer
lobby seating
coat check
restrooms
concessions
terrace
outdoor amphitheater
café
gathering/piazza
parking
elevators
offices
meeting room
receptionist
reception waiting area
director's assistance
director's office
conference room
supplies/break room
loading dock

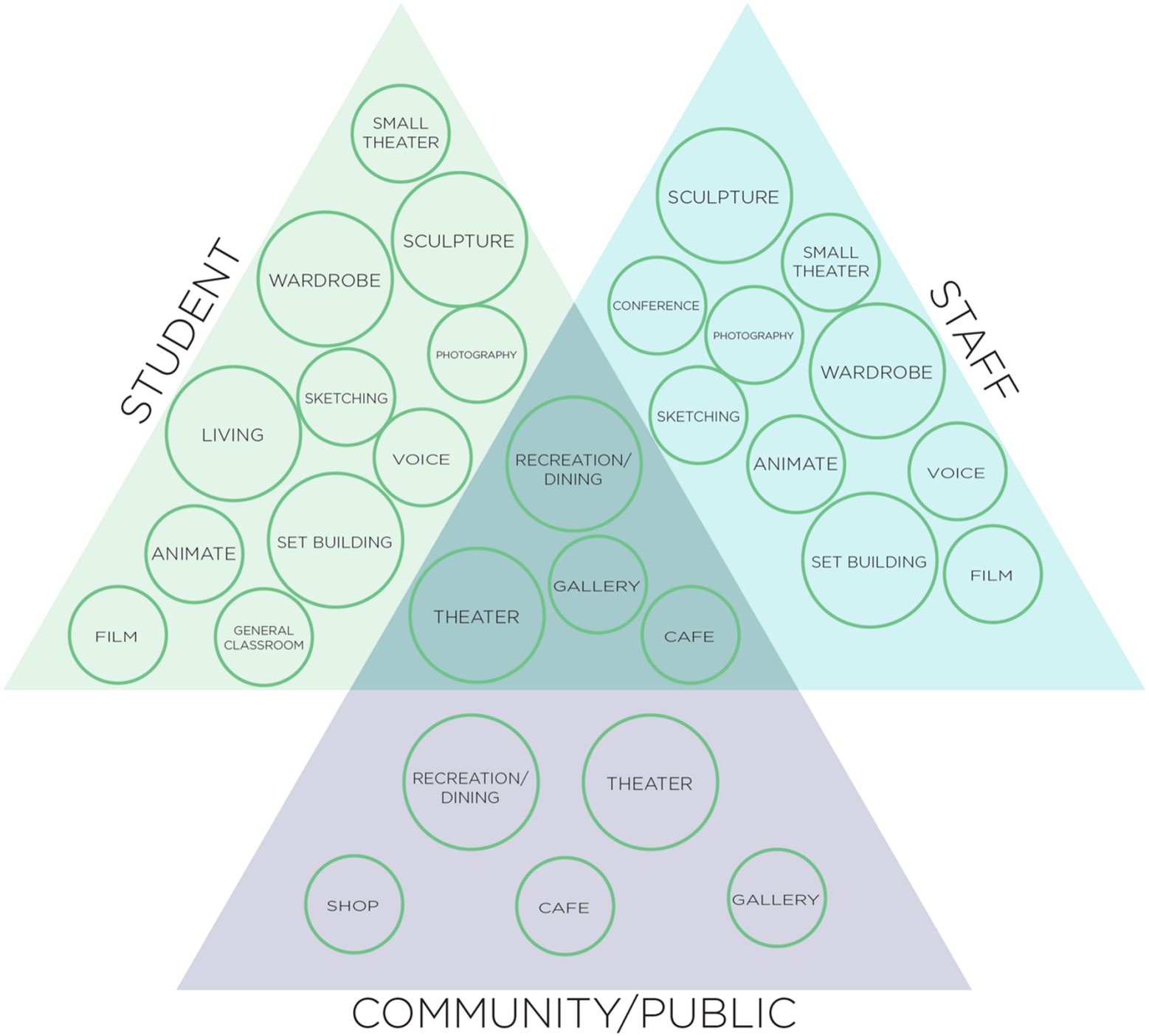
STEM/STEAM EDUCATION - ARTS & CREATIVITY

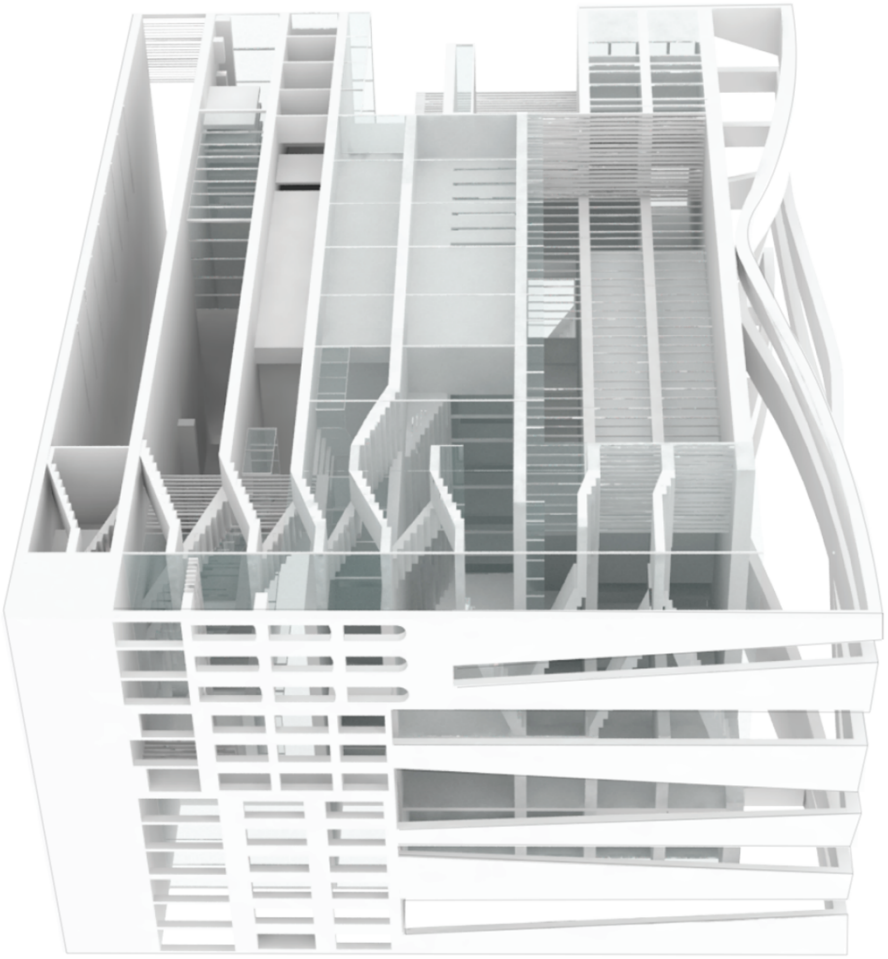
INSPIRE

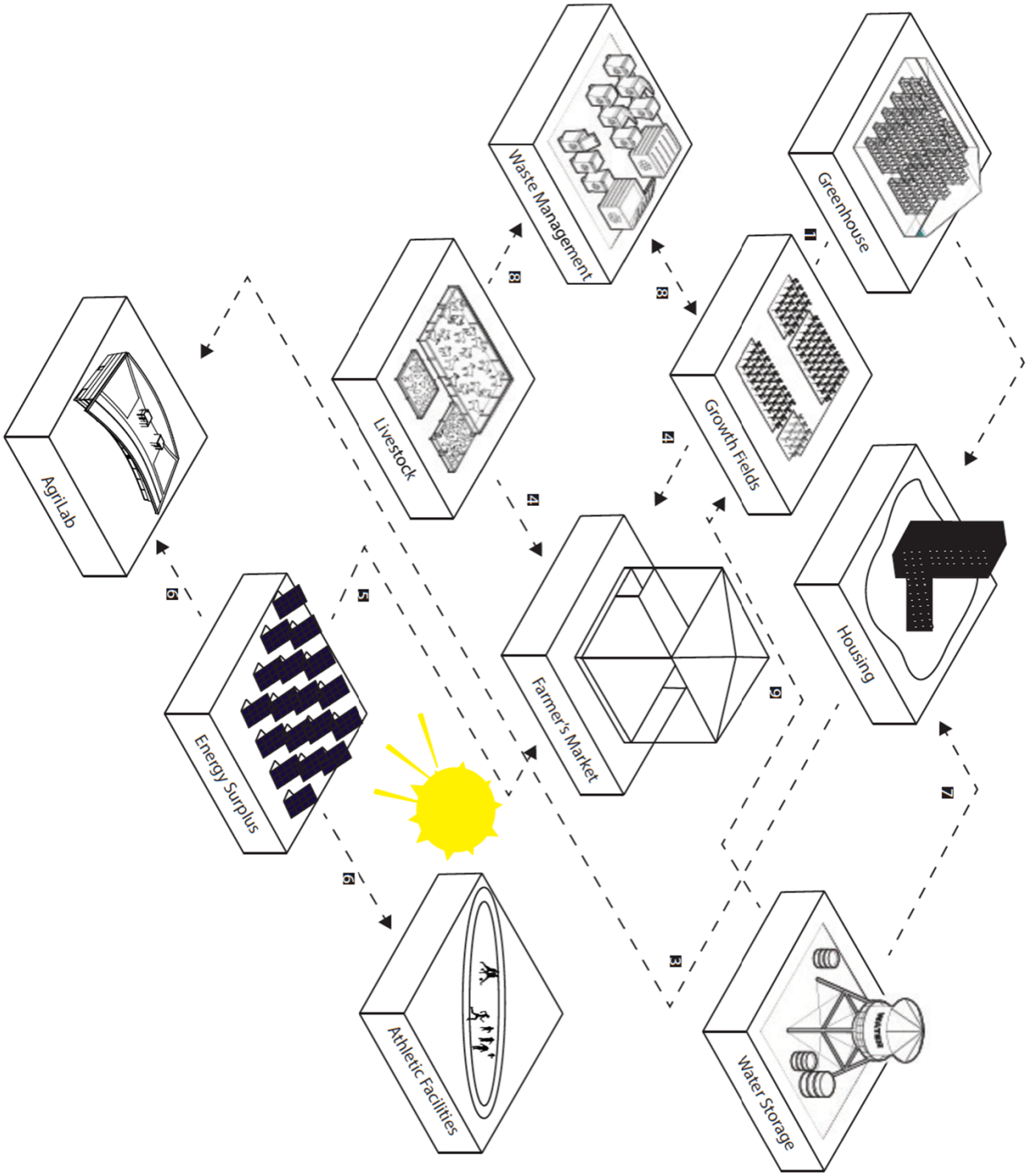
PERFORMING ARTS - VIDEO

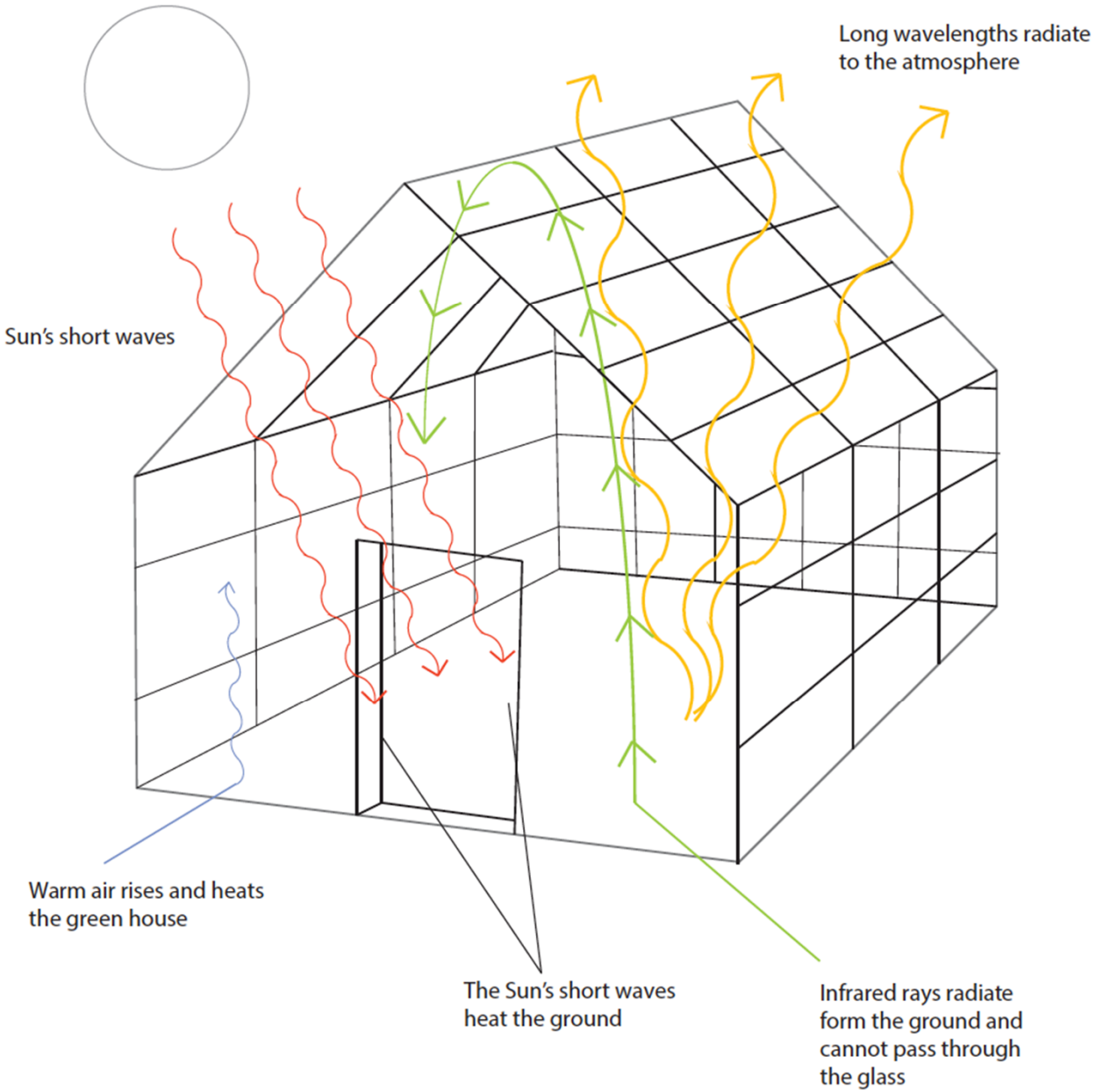
STEM/STEAM EDUCATION - ARTS & CREATIVITY

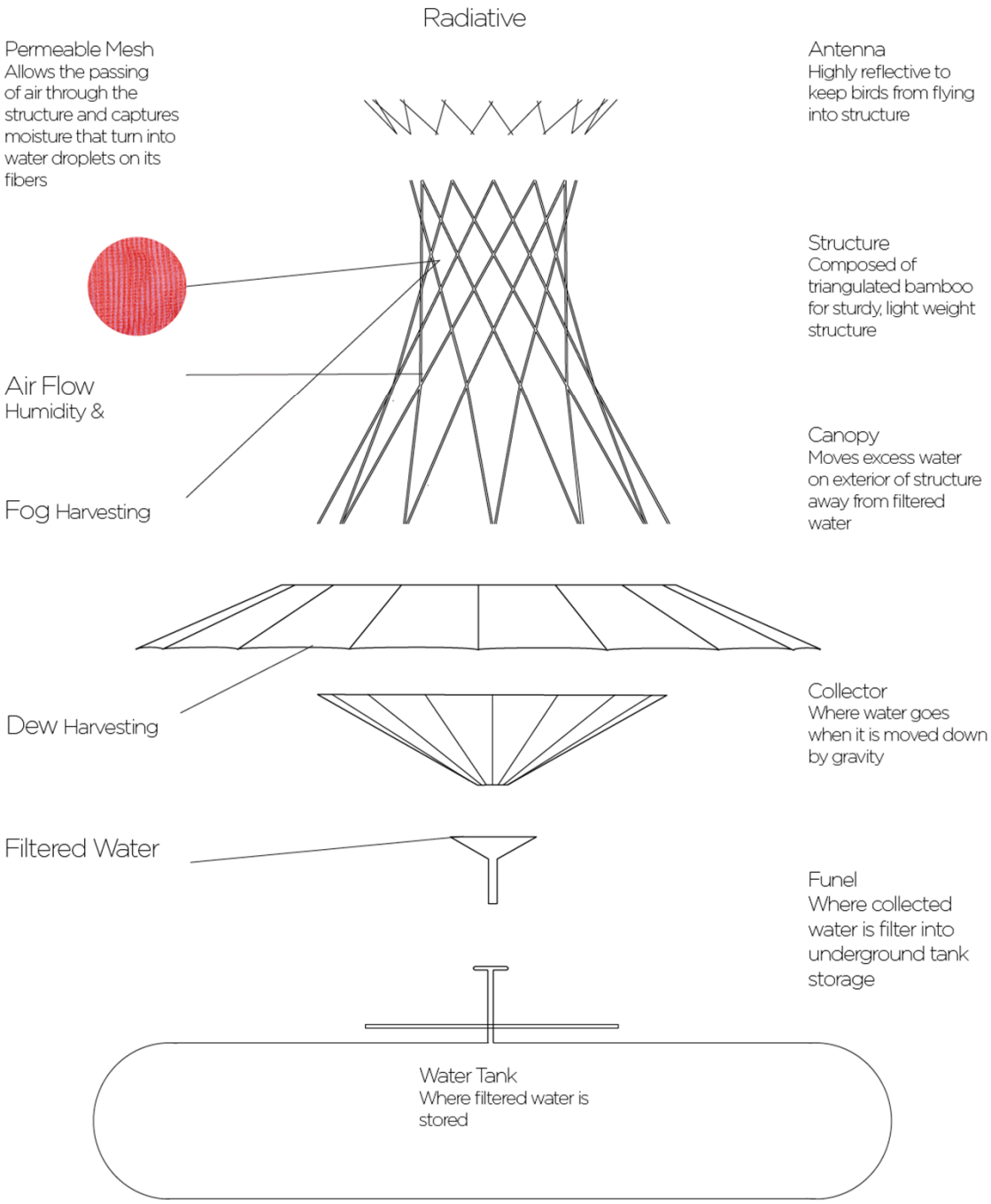
INSPIRE

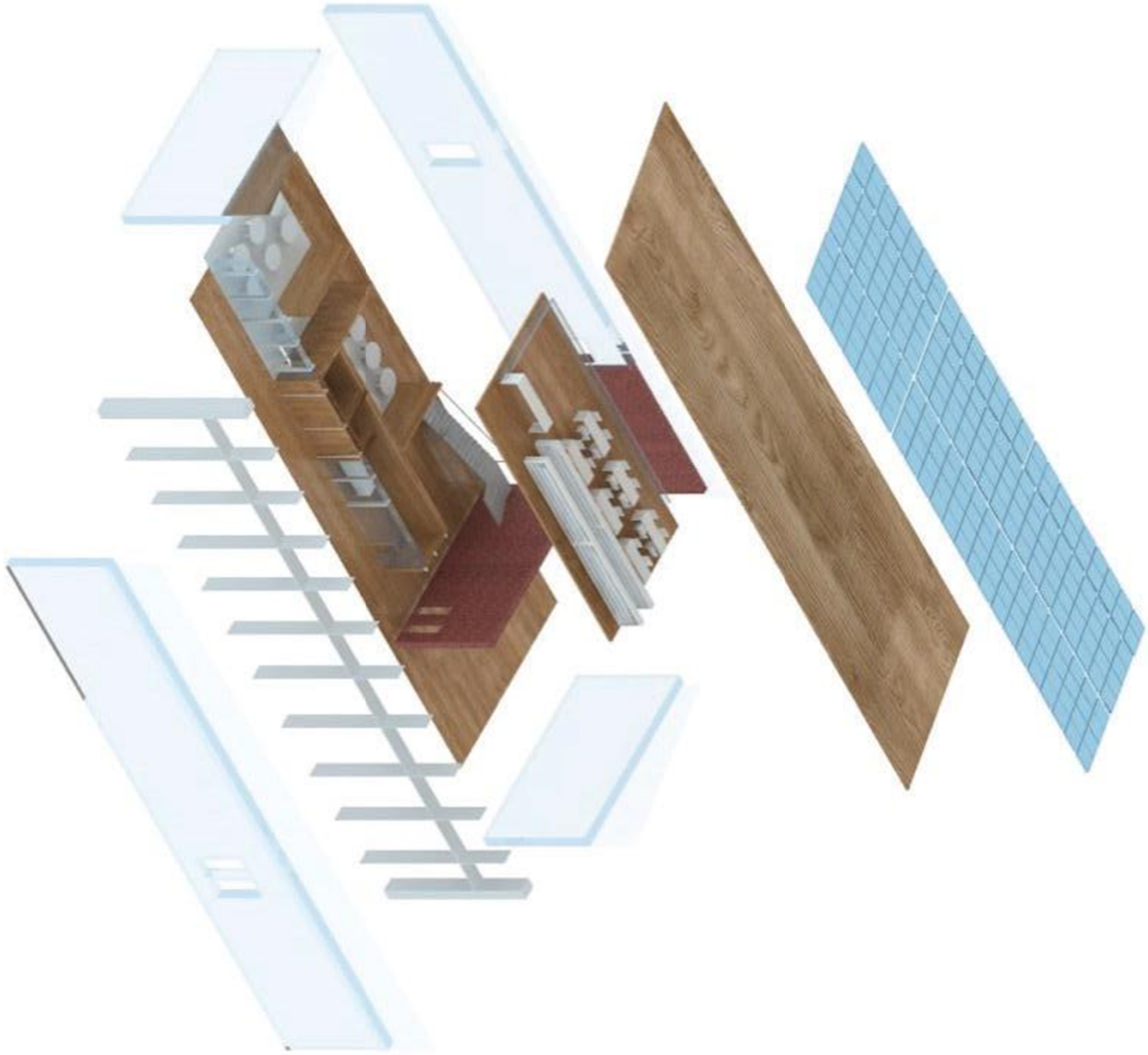





Waste Management
Greenhouse
Livestock
Growth Fields
AgriLab
Housing
Farmer's Market
Energy Surplus
Athletic Facilities
Water Storage
1
2
3
4
5
6
7
8
9
10
11
12


Long wavelengths radiate to the atmosphere
Sun's short waves
Warm air rises and heats the green house
The Sun's short waves heat the ground
Infrared rays radiate form the ground and cannot pass through the glass

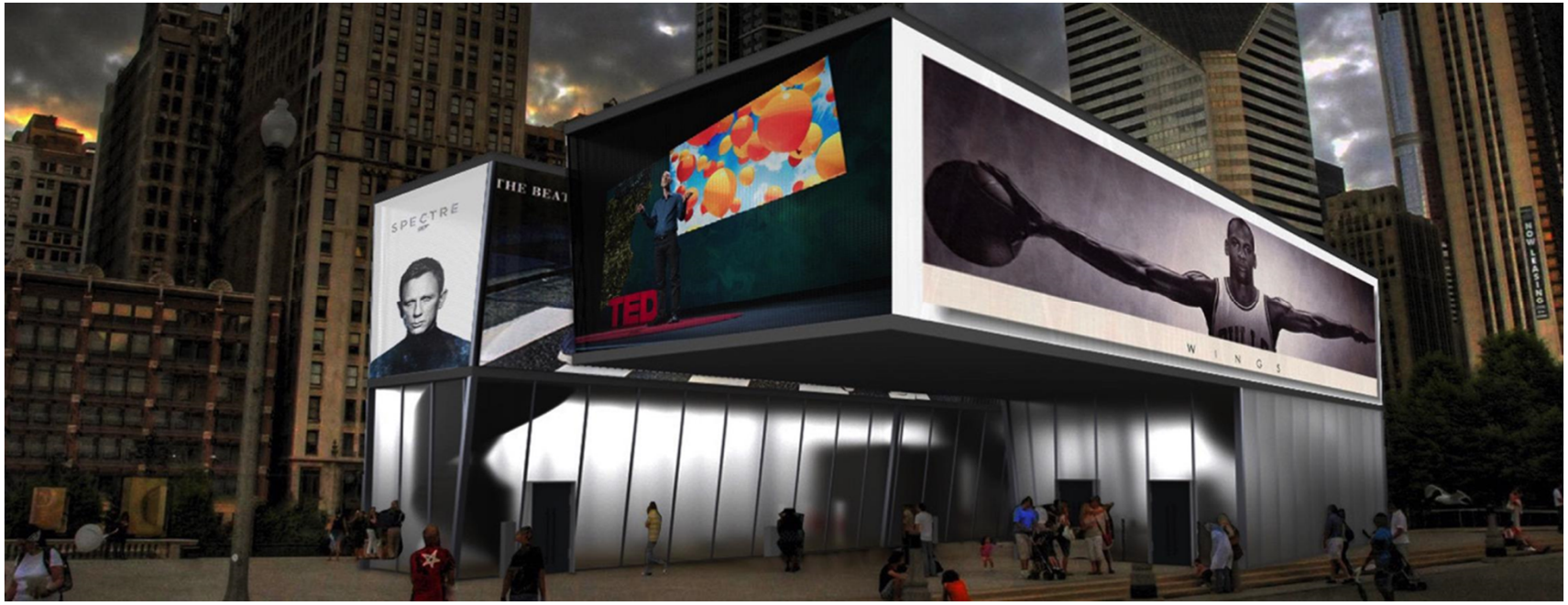

Radiative
Permeable Mesh
Allows the passing of air through the structure and captures moisture that turn into water droplets on its fibers
Antenna
Highly reflective to keep birds from flying into structure
Structure
Composed of triangulated bamboo for sturdy, light weight structure
Air Flow
Humidity &
Fog Harvesting
Canopy
Moves excess water on exterior of structure away from filtered water
Dew Harvesting
Collector
Where water goes when it is moved down by gravity
Filtered Water
Funel
Where collected water is filter into underground tank storage
Water Tank
Where filtered water is stored



AGRICULTURE, COMMUNITY, AND TECHNOLOGY

INNOVATE

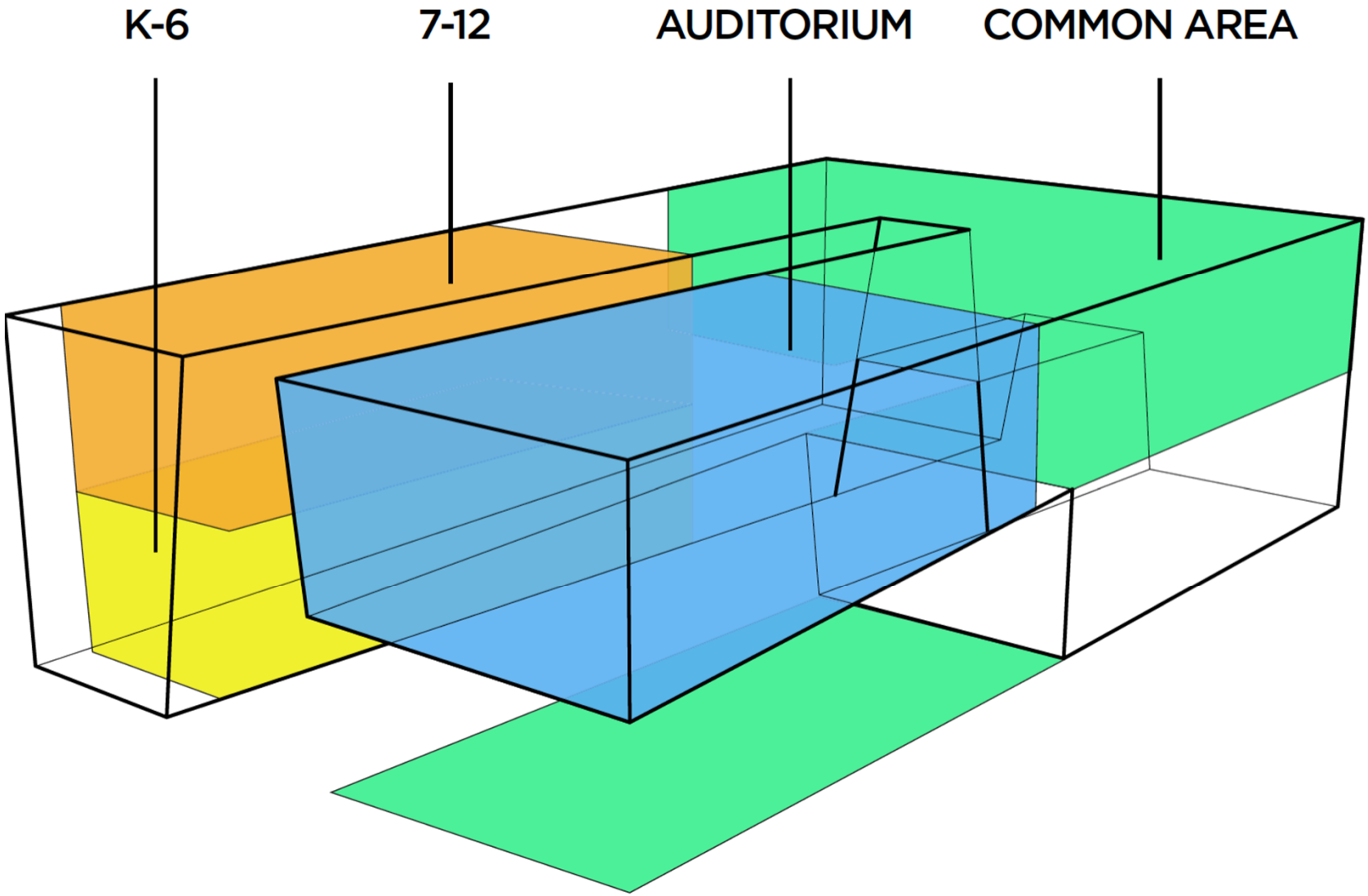
Knowledge Exchange Center



AGRICULTURE, COMMUNITY, AND TECHNOLOGY

INNOVATE

Knowledge Exchange Center

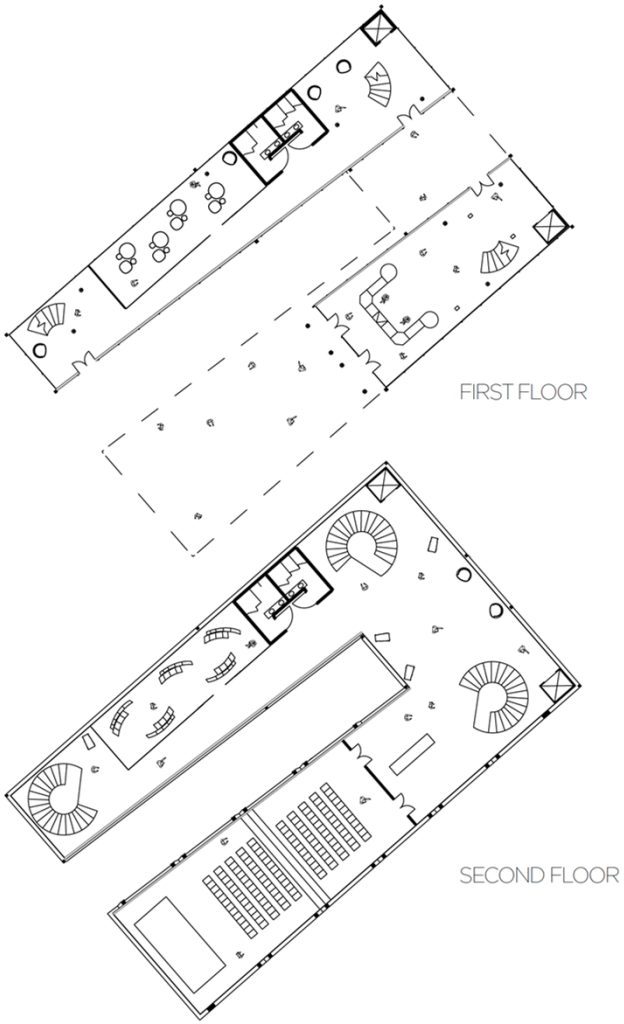


AGRICULTURE, COMMUNITY, AND TECHNOLOGY

INNOVATE

Knowledge Exchange Center

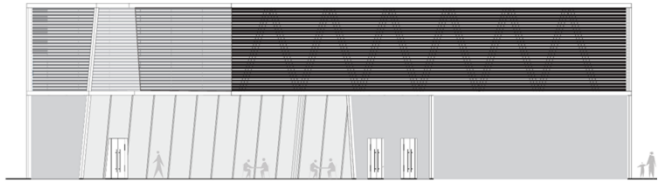
PLAN



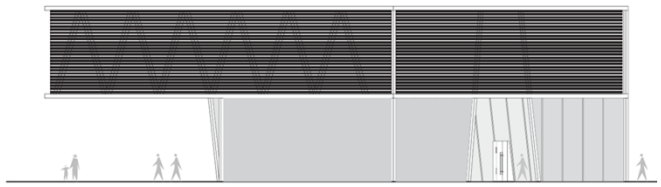
FIRST FLOOR

SECOND FLOOR

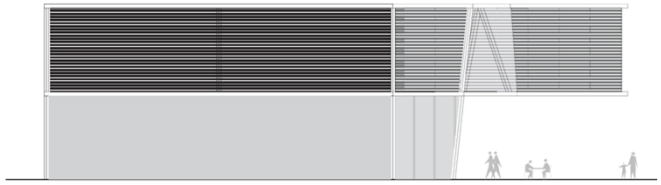
ELEVATION



SOUTH VIEW



EAST VIEW

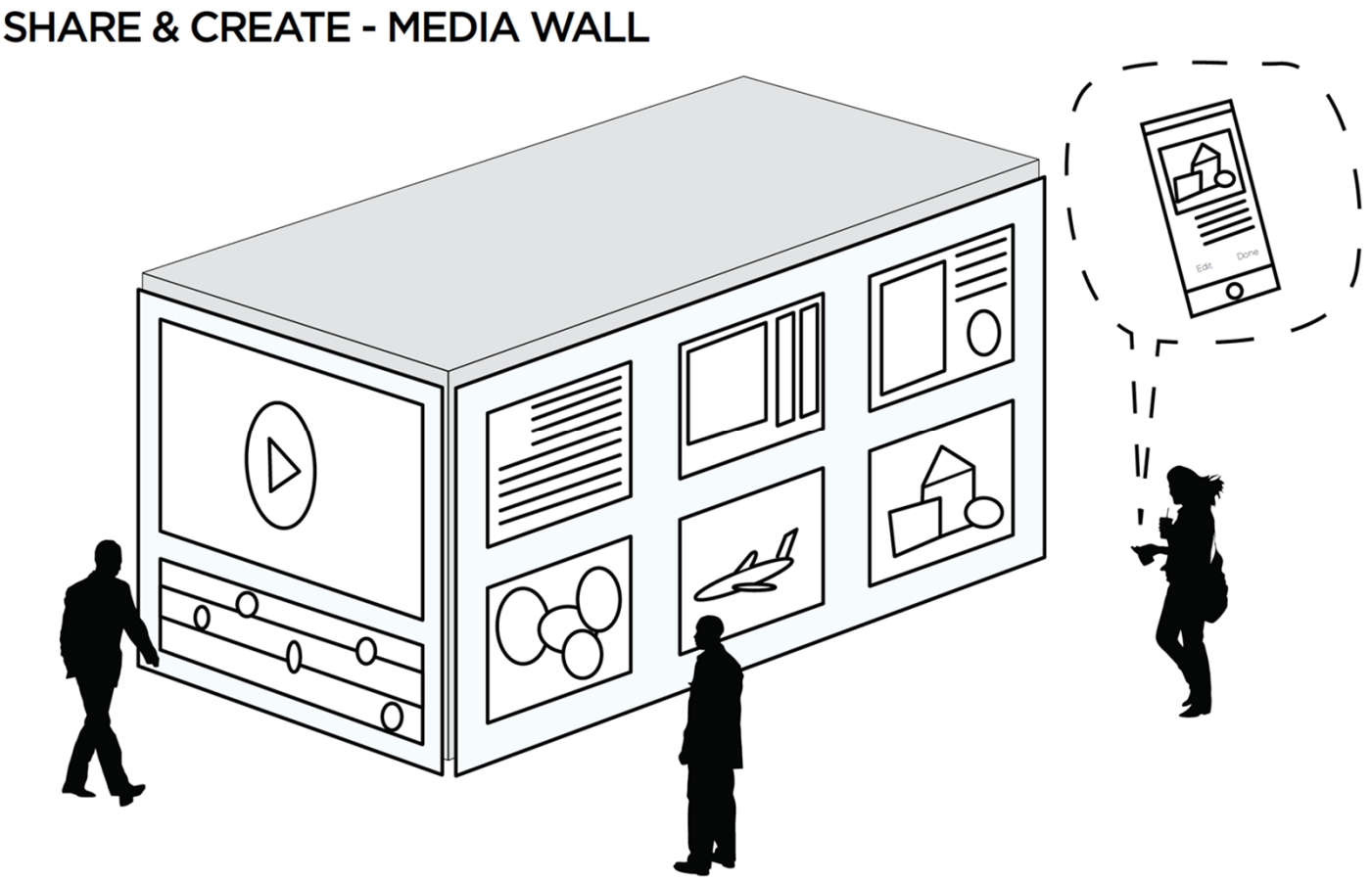


WEST VIEW

AGRICULTURE, COMMUNITY, AND TECHNOLOGY

INNOVATE

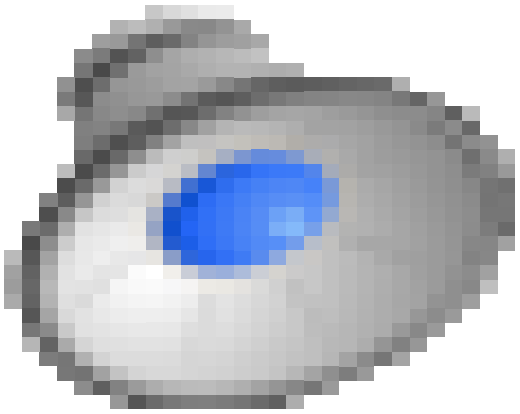
Knowledge Exchange Center



AGRICULTURE, COMMUNITY, AND TECHNOLOGY

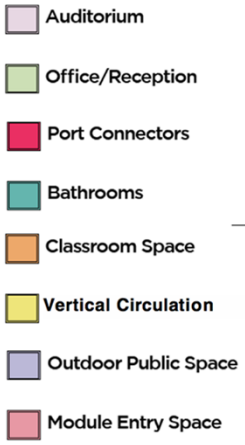
INNOVATE

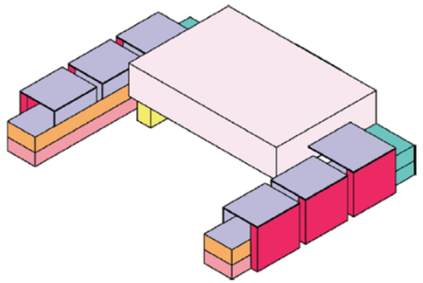
Portal

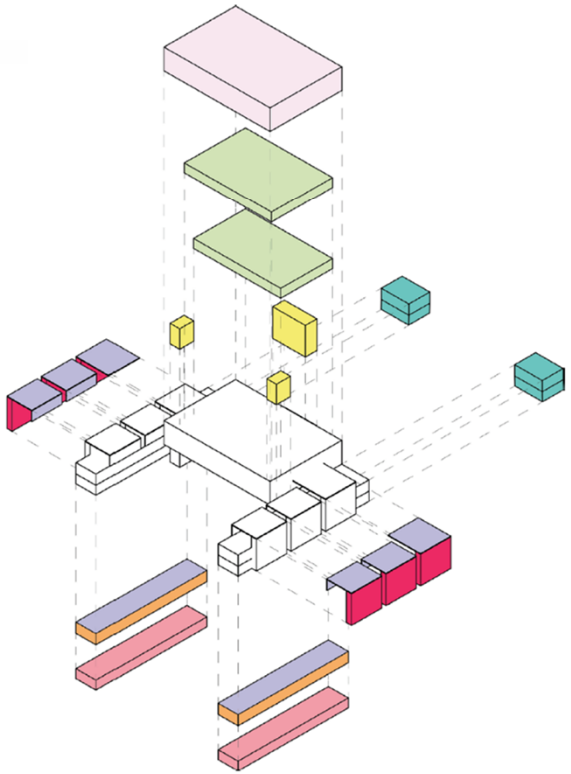


PORTAL-VIDEO

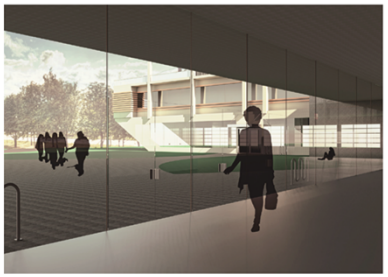
Portal

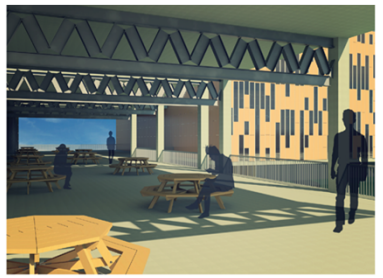

Auditorium
Office/Reception
Port Connectors
Bathrooms
Classroom Space
Vertical Circulation
Outdoor Public Space
Module Entry Space

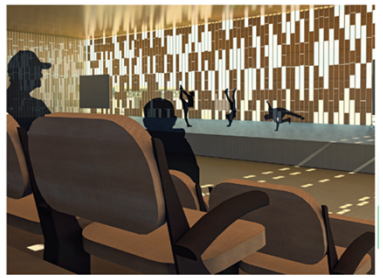




PORT







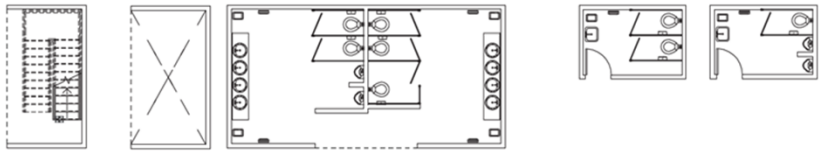
AGRICULTURE, COMMUNITY, AND TECHNOLOGY

INNOVATE

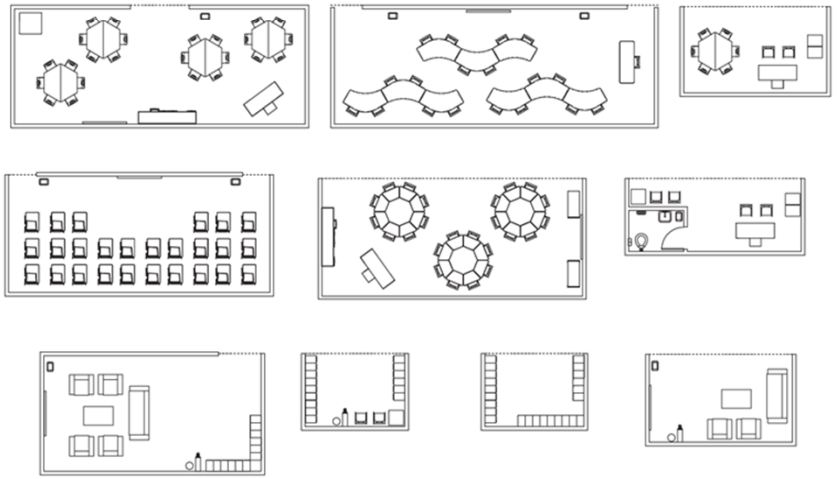
Portal

Module Mutations

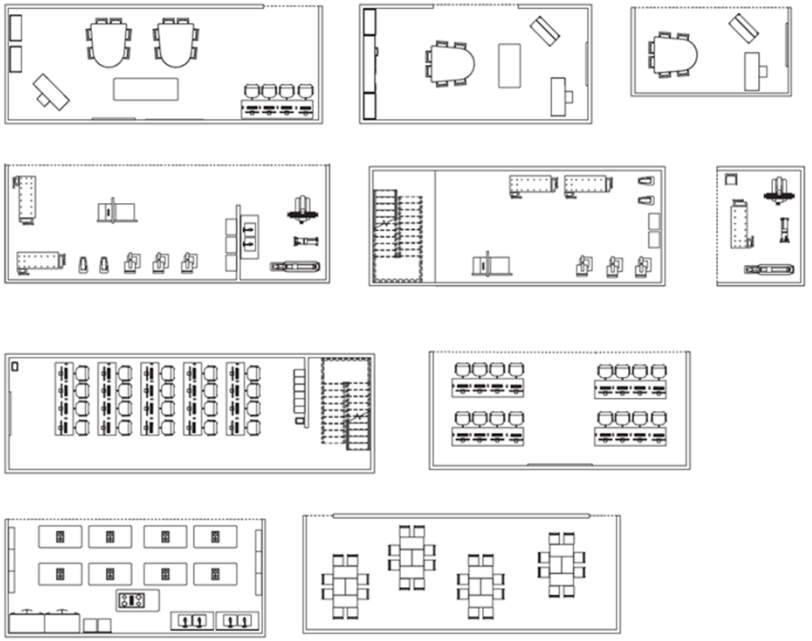
Modules of Utility:
These are some examples of PORTAL's possible Modules of Utility. These are bonus additions to any other module. Advantages consist of verticle circulation, storage of furniture, and bathrooms.



Multi-Purpose Modules of Learning:
These are commonly used modules that can be function for any division of education. These consist of a lecture room, cluster classrooms/co-op spaces, private adminstration and staff offices, and communal areas.



Program Specific Modules of Learning:
These are modules that can be used for specific divisions of education. These can be broken down or shared by the programs of study: Business, Construction, Culinary, Design and Nursing. Using a mixture of both innovative and tradition technology inside the modules to create the ideal 21st century learning enviornment.



AGRICULTURE, COMMUNITY, AND TECHNOLOGY

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INNOVATE AGRICULTURE, COMMUNITY, AND TECHNOLOGY

growCODE-VIDEO

AGRICULTURE, COMMUNITY, AND TECHNOLOGY

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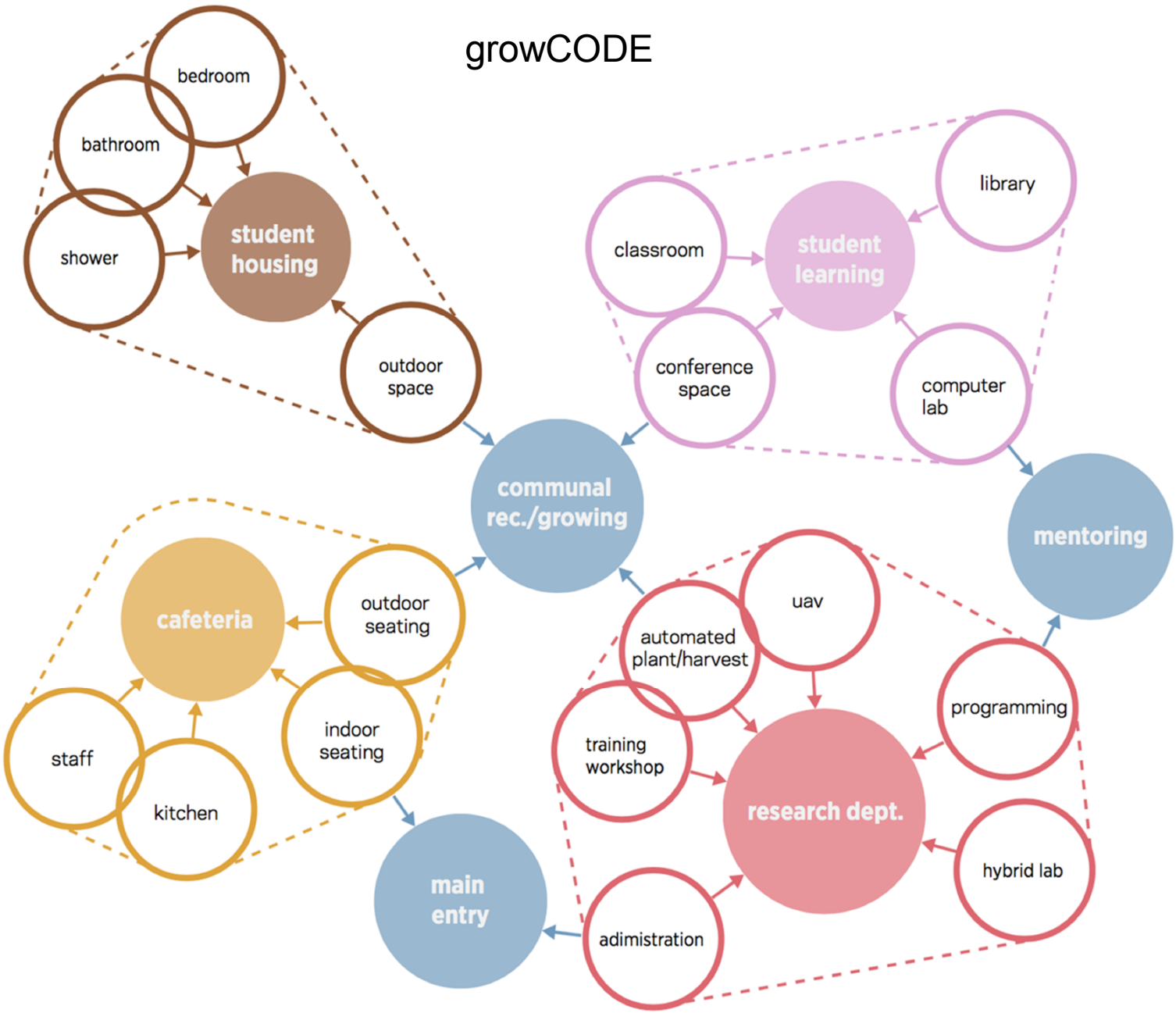

INNOVATE AGRICULTURE, COMMUNITY, AND TECHNOLOGY

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Panel Discussion

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