



2020 LEsolutions Design Award

SMALL / SPECIAL PROJECT

ELON W. RHODES EARLY LEARNING CENTER HARRISONBURG CITY PUBLIC SCHOOLS HARRISONBURG, VIRGINIA

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O1



Executive Summary

Executive Summary

Study after study reaches the conclusion that early childhood education has a tremendous impact on life outcomes. Yet only 51% of 3-and-4 year olds in the U.S. are enrolled in full-day pre-primary programs, with no improvement in the last 15 years.

As one of the fastest growing cities and school districts in Virginia, Harrisonburg, between 2002 and 2013, experienced a 32.76% increase in school enrollment and a 21% increase in its city population. The question of how to best provide early childhood learning – through a centralized system or distributed within existing schools – has been posed across Virginia, where specific communities have experienced dramatic growth in the number of early learners over the past few years.

The Elon W. Rhodes Early Learning Center is uniquely designed to facilitate experiential learning as a means to holistically grow social skills, coordination, and sensory development. Measured risk-tasking related to play, touch, sight, taste, smell, and listening are encouraged. With a curriculum based on cognitive development (as opposed to academic learning), the Early Learning Center (ELC) encourages curiosity and inquiry in young learners in order to inspire lifelong learning.

As part of district-wide grade realignment, Harrisonburg City Public Schools (HCPS) resolved to consolidate their early learning program into one campus, to create a center dedicated to supporting their youngest learners.



O2

Scope of Work + Budget

Scope of Work + Budget

The Elon W. Rhodes Early Learning Center (ELC) establishes a vibrant new campus that supports Harrisonburg City Public Schools (HCPS)'s ambition to place early education high among its recognized strengths. The strategic location of this project (as an addition to an existing elementary school), coupled with the dynamic nature of outdoor programming for play and learning, also supports the HCPS' desire to make learning visible and accessible to the community of parents and families from all over the world.

The ELC is a first and one-of-a-kind in a series of new school projects that will transform the existing site into a new precinct to include the youngest learners in close proximity to elementary and middle school communities. These buildings, combined with the new ELC landscape and revamped Elementary School playscape, will foster new and lasting relationships between academic and culturally-rich social spaces.

Recognizing that the whole is greater than the sum of the parts, the Early Education Center establishes a forward-looking program, affirming HCPS's commitment to excellence in education, innovation, and the vibrancy of learning, living, playing and discovering within the context of skillful and expert teaching professionals.

Owner's Budget: \$6,200,000
Actual Bid: \$6,200,000
Final Construction: \$6,321,771
Project Cost (with sitework): \$7,583,797



03

**School +
Community
Engagement**

Inclusive Planning Process

The planning process involved a review of the initial program prepared by the design team and the Harrisonburg Steering and Design Advisory group members. This effort included a series of work sessions, visioning workshops, and interactive engagement exercises with key representatives to evaluate and refine the program needs first identified by the HCPS steering committee. The goal of these initial work sessions was to review and generate the required types of spaces, occupant capacities, square footage allocations, and adjacencies to inform the preferred option for the design.

Working with a collaborative team of educators and administrators – including the Director of the ELC, the Director of Elementary Instruction, the Director of Special Education / Programs, and the Assistant Superintendent of Operations and School Safety – the design team developed the following planning and design objectives:

- Create child-oriented environments that feel like 'home.'
- Facilitate family and caregiver involvement in the ELC.
- Provide durable, natural materials with various tactile and sensory qualities that are appealing and educational.
- Optimize passive design strategies for energy conservation, sustainable ecologies, and project-based learning. The ELC is tracking LEED Gold with an EUI of 20.
- Design inspiring indoor-outdoor spaces that satisfy age-appropriate needs for comfort, safety, and belonging.
- Create a variety of appropriate play and learning environments that promote physical activity, social engagement, and experiential learning.

KEEP

- High Ceilings
- Windows
- Natural Light
- Carpet + Tile
- Storage
- Collaboration Spaces
- Open Spaces
- Flexible Furniture
- Trees
- Courtyard
- Nature Trail
- Bus separate from car

TOSS

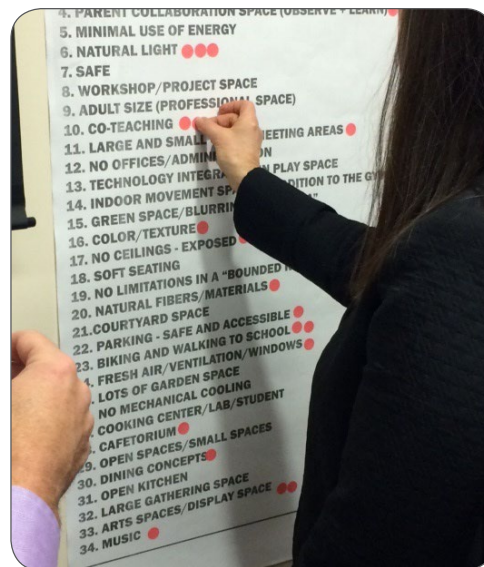
- Carpet
- High maintenance landscape
- Old style computer lab
- Toss service computer lab/ inflexible
- Still has to be wired
- Long narrow hallways
- Hand dryers
- Bad operable partitions
- Bad acoustics
- CMU (Sterile materials)
- Small tack strips

CREATE

- Garden
- Bike path
- Writable/magnetic/colorful walls
- Colorful floors
- Collaborative pods
- Vertical solutions
- Specific needs appropriate space
- Work space
- Bigger/operable windows
- Flexible and appropriately sized furniture
- Open sinks
- Maker/Mess space
- Wash/Dryer
- Nap/Quiet Space
- Climbing room
- De-escalating Rooms (2)
- Sink/WF in each classroom
- Flash Freeze for fresh foods
- Communal dining
- Smaller dining distributions
- Open visual art spaces

CREATE

- Lighting
- More toilets (all levels)
- Classroom observation capability
- Movement space with mirrors to see movement
- Private Telecom
- Learning Kitchen
- More vertical open space
- Universal design access
- More storage
- Multipurpose rooms
- Reading nooks
- Skylights
- HVAC system that works
- Sound throughout



KEEP. TOSS. CREATE.

1 1/2 MINUTES > LIST TO KEEP

1 1/2 MINUTES > LIST TO TOSS

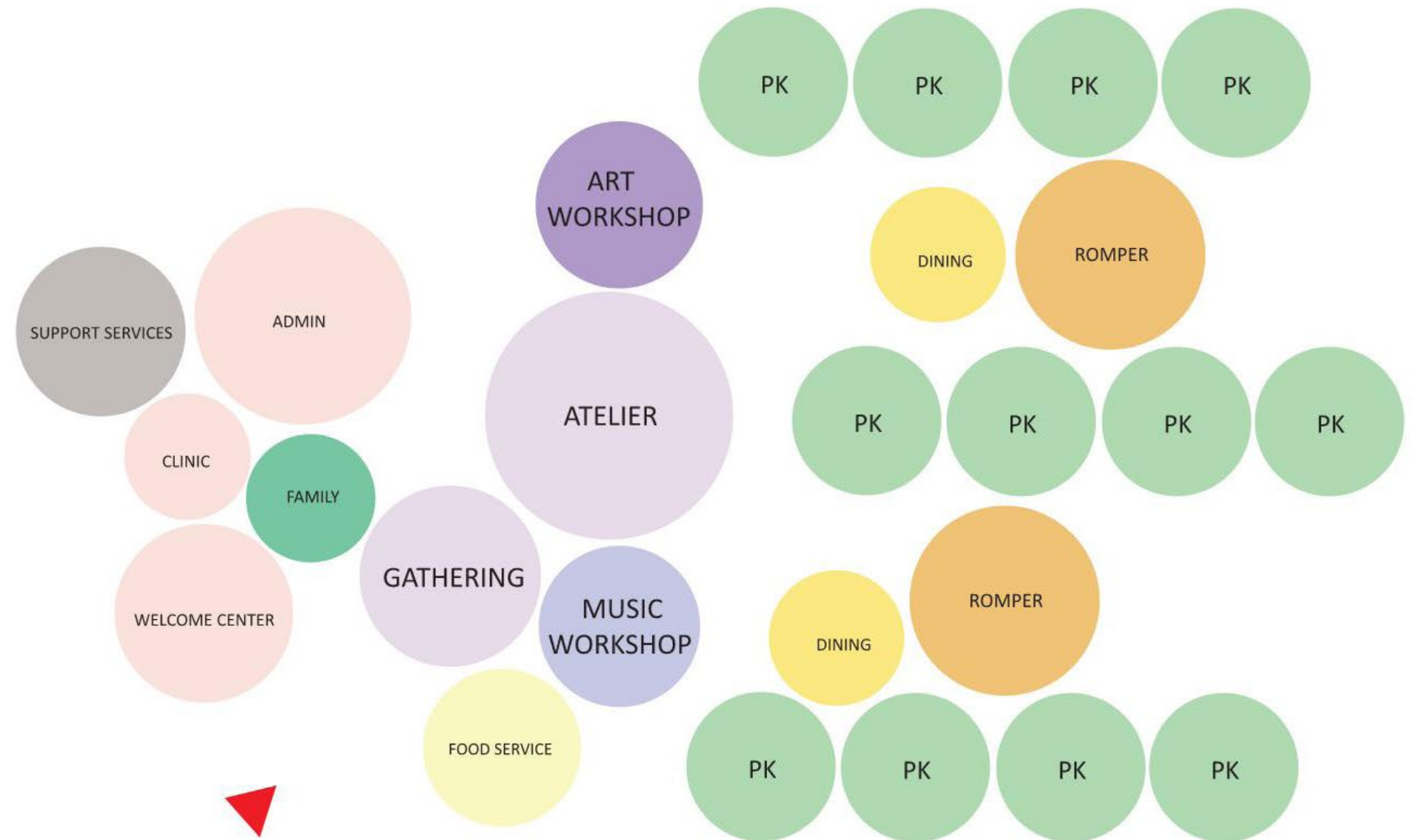
1 1/2 MINUTES > LIST TO CREATE

05 MINUTES > DOT DEMOCRACY

Collaboration + Idea Generation

Three workshops were prepared and delivered for stakeholder engagement to guide community-driven design through three progressive stages of idea generation: **visioning, conceptualizing, and programming.** Visioning exercises aimed to infuse the programming process with depth, meaning, and clarity of vision. Working with a diverse group of educators and administrators, each exercise was designed to encourage the co-creation of common goals and grounding principles as benchmarks for design success. The early design process was articulated as a communal experience to discover what key stakeholders envision for the new school. The design team sought to understand the unique culture that characterizes teaching and learning excellence in Harrisonburg City Public Schools while identifying community assets, related to family or other partners, that contribute to the creation of positive school experience. The team also played with speculative ideas of future school scenarios by generating headlines of success and visions of student-driven learning.

From the architectural perspective, designing the new Early Education Center is an opportunity to embody what is currently successful as a pre-kindergarten program and intentionally plan for the children's future prospects. The creation of meaningful architecture for children and the community starts with thoughtful consideration about "school culture" and exploring examples of projects from around the world to point out the architectural and programmatic features that enhance teaching practices and create new opportunities for learners. In all the exercises and precedent sharing, the educational value of the architectural response to program affirms an active, engaging, and inspirational sensitivity to a child's natural bounty, wealth of creativity and unique intelligences as capacities to learn. A number of key 21st century concepts and a menu of activities were explored throughout the three workshop phases, resulting in a list of top ten goals, an atlas of values, and a flexible program that will go to support collaborative learning and teaching for decades to come.



Programming Process

The program seeks to provide a diverse menu of spaces for 21st century teaching and learning for 350 early education children and an estimated staff of 42. The program is sub-divided into core learning areas comprised of studios, resource spaces, movement area, and shared learning spaces such as music and art. Student services and administration, food service, and outdoor educational programming also serve to create a holistic ecology for learning, sharing and growing in community.

The new school will be a lens for learning and “a place in nature, a place of nature.” The design addresses the program by creating multiple, transparent connections to the surrounding environment. These connections offer children a consistent reminder of the natural ecologies and daily ‘goings-on’ in nature while affording both active and passive teachable moments everyday. Parents and caregivers are also afforded the opportunity to glimpse and share in the experience of the ongoing learning activities.

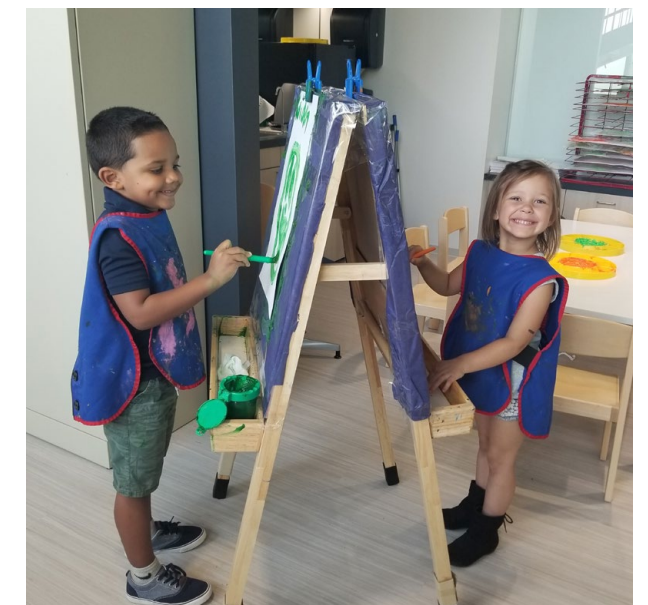
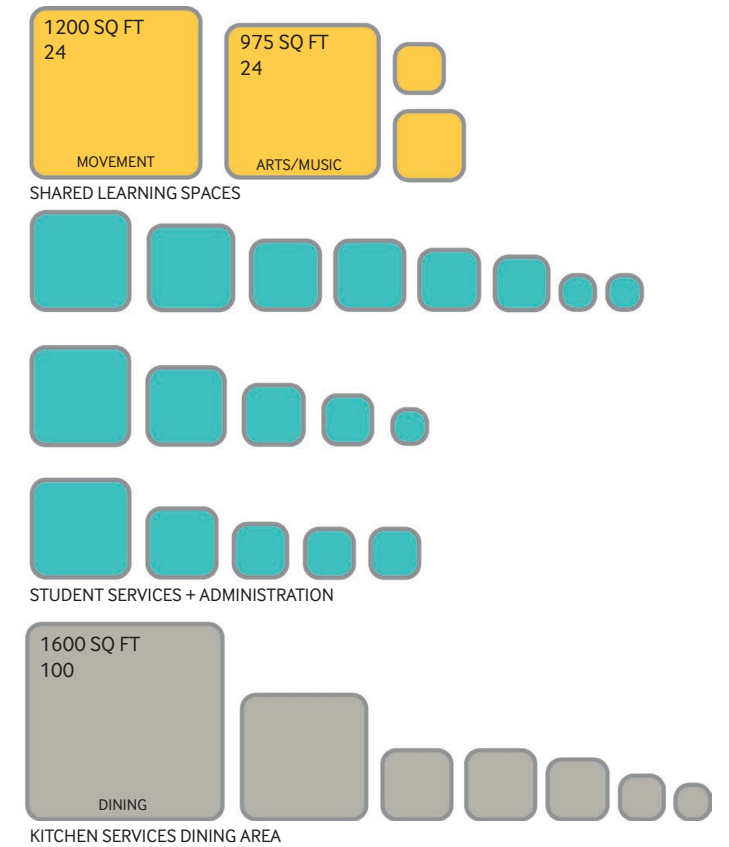
The heart and hearth of the building is a two-story arts promenade or entourage area that brings together all the communal learning elements of dining, art, music, and movement into the everyday life of the facility. The connection between spaces inside the building occurs in a variety of ways to involve and activate sensory responses simulating the qualities of nature: translucency, transparency, openness, and multidirectional daylighting. Flexible elements seamlessly respond to the transitioning process between one teaching/learning modalit and the next moment.

18 LEARNING STUDIOS WITH CHILDREN’S TOILETS



SPACE PROGRAM

COMPLIMENTARY LEARNING + SUPPORT SPACES



COLLABORATION, COMMUNITY, CONNECTION: PROGRAMMING + PLANNING GOALS



MOVEMENT



LOVE FOR READING



OUTDOOR AFFORDANCES



SOCIAL SPACES

PROGRAM GOALS + OBJECTIVES

The primary mission of the Early Education Center program is to enhance the performance of professionals by offering an opportunity for quality programs in a state-of-art child-friendly building. The Center must meet the needs of children, teachers, administrators and parents by supporting the staff's care of children within physical environments that allow them to focus their efforts on the care and nurture of young children. The program reflects the importance of providing features which encourage strong, positive relationships between staff and children with both functional and inspirational accommodations.

Facilitating family involvement in the center, particularly with the child's caregivers, aims to promote educational affordances and support services for families and children to ensure they are afforded enriched learning experiences within a supportive context. The Center's program and design has been conceptualized "through the eyes of a child," with resulting sensitivity to children's scale, how they will use the space, what they will experience sensorially and what kind of experiences they will have to reflect Whole Child principles. In addition, program and space allocations have been optimized to accommodate a variety of group sizes and staff-to-child ratios established by the Early Learning Services Coordinator.

PLANNING PRINCIPLES

Design a distinctly child-oriented environment with a Center that feels like "home."

Facilitate family involvement in the Center, particularly with the child's caregivers.

Provide durable, natural materials with sensitivity to textures; various tactile and sensory qualities that are appealing and educational for children.

Design attractive, inspiring indoor-outdoor spaces and places that satisfy age-appropriate needs for comfort, safety and a sense of belonging.

Create a variety of appropriate play and learning environments that promote physical activity, social engagement and experiential learning.

Optimize passive design strategies for energy conservation, sustainable ecologies and project-based learning opportunities.

Conceive the building and landscape as a Teaching Tool + Living Lab

SPATIAL ORGANIZATION

The concept design landscape metaphor of the VALLEY, realizes the soft, rolling nature of local place as well as the exploratory, kinetic nature of young children encountering school for the first time at the Early Education Center. The concept design featured building masses arranged as two learning neighborhoods connecting to a central spine, called the entourage area. The two-story school building and site configuration strategically creates a series of new open spaces as a series of gardens, playscapes and outdoor learning environments. The transparent programmatic organization of the community space emphasizes the connection between interior pathways and exterior courtyards. The main entry and primary circulation of the Center are arranged as an extension of the drop-off sequence and parallel to the physical activity promenade. Upon entering the lobby, visitors and children are immediately presented with one of the focal points of the project, a gently curved stone wall that frames a gallery, playscapes, and the entourage. The core learning neighborhoods, administration and teacher resource offices are adjacent to the first level public lobby. The Center will be serviced by a portion of the existing fire lane re-designed as an access drive which leads to the service court for loading and unloading of commodities.

TOP 10 PROJECT GOALS

- 01 USE IT [the building/grounds] ALL THE TIME
- 02 NATURAL LIGHT
- 03 CREATIVE OUTDOOR SPACES
- 04 ADAPTABLE SLIDING DOORS / WALLS
- 05 STORMWATER SOLUTIONS
- 06 SPACE FOR TEACHERS
- 07 COLOR, COLOR, COLOR (CHANGING)
- 08 ARRIVAL SPACE / WELCOMING EXPERIENCE
- 09 NET-ZERO
- 10 LIBRARY FOR 2030

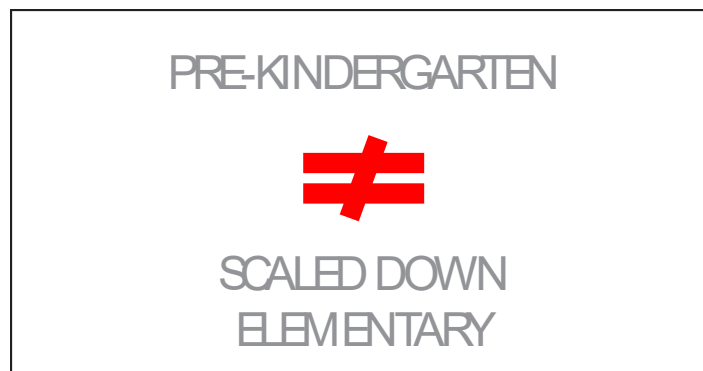
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Educational Environment

Early Childhood Learning

The specific needs and focus of early childhood development demand a different program than one that supports elementary school learners. These needs prompt unique architectural responses that cater to the social, emotional, motor, and sensory development of early learners.

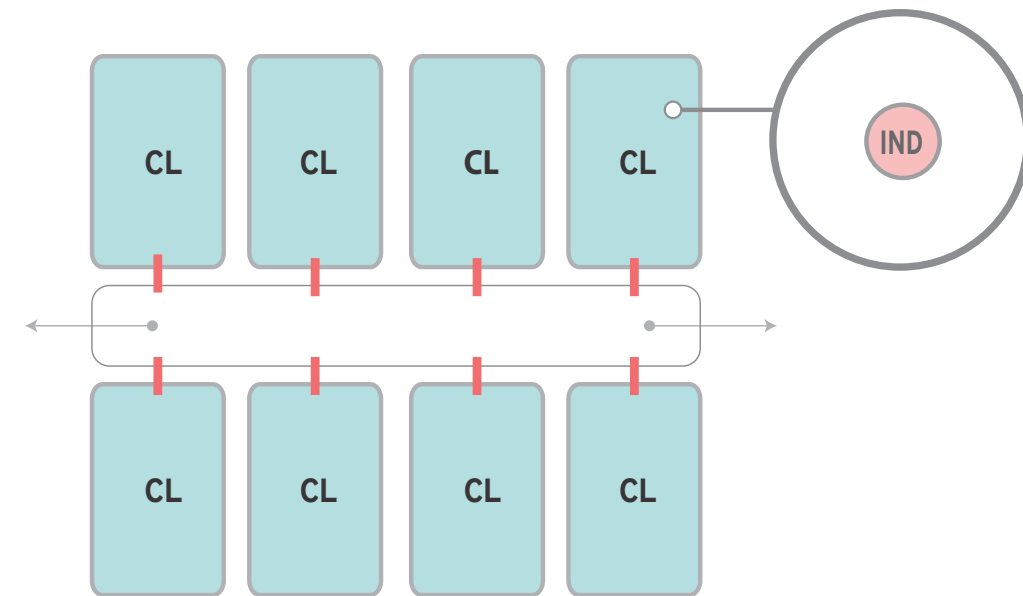
The ELC was designed in response to ongoing research in the field of early childhood learning and through careful study of the Reggio Emilia approach that emphasizes self-directed, experiential learning opportunities in relationship-based settings. Rooted in the principles of respect, responsibility, and community, and paired with measured risk-taking and exploration, this self-directed approach echoes and supports HCPS' literacy vision which encourages: "meaningful tasks that engage students" ... "in a continual process of constructing meaning through listening, speaking, and reading." In other words, experiential learning is key to fulfilling HCPS' vision.



TEACHER-CENTERED

curriculum based
classroom
standardized
competitive

CONTENT DELIVERED

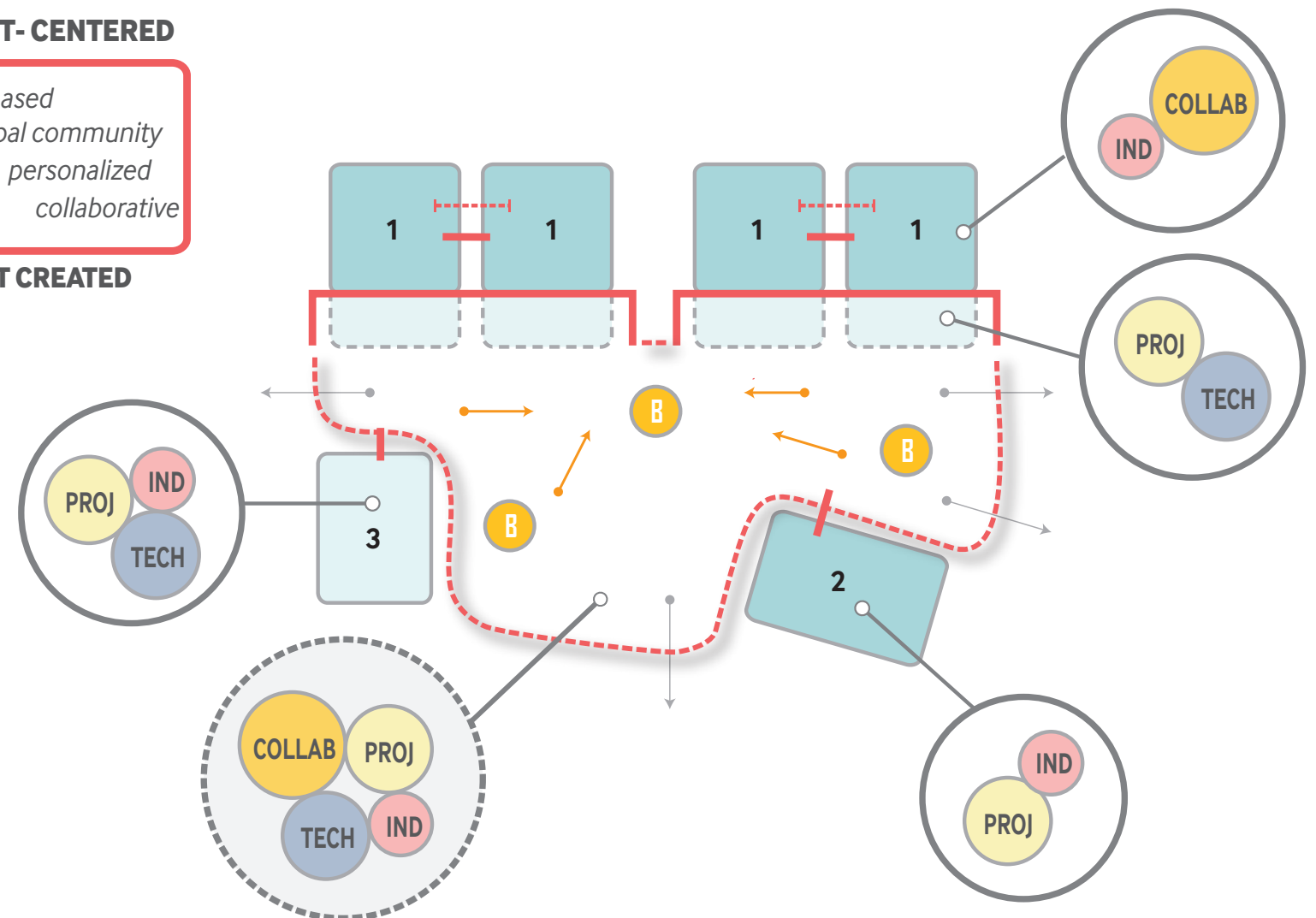


OUTDATED 20TH CENTURY LEARNING MODEL

STUDENT-CENTERED

project based
global community
personalized
collaborative

CONTENT CREATED



21ST CENTURY LEARNING MODEL

Supporting Learning through Connection

Co-located on the existing Smithland Elementary School site, the ELC features 2-stories and 9 learning studios with access to shared communal spaces and outdoor play and learning environments. With a current capacity of 170 students, the ELC was master-planned to support growth up to 350. The Center, comprised of dual 2-story learning neighborhoods with studios and support spaces, are stitched to a central organizing promenade or entourage space that acts as a community hearth for dining, lounging, learning, and gathering inside and out. Transparency between the community 'entourage' areas and learning studios reinforces social connections, enables passive/active supervision by educators, and celebrates the co-benefits of natural daylighting for both human health and environmental purposes.

Interior and exterior physical environments are designed to foster optimal growth and development opportunities for exploration and learning. Play areas support dramatic and constructive/creative play, active and quiet play, sand and water play, with opportunities to explore nature. Pathways for wheeled toys provide circulation and allow the play experience to flow through the play different play areas.



STORY STEPS - LEVEL 1

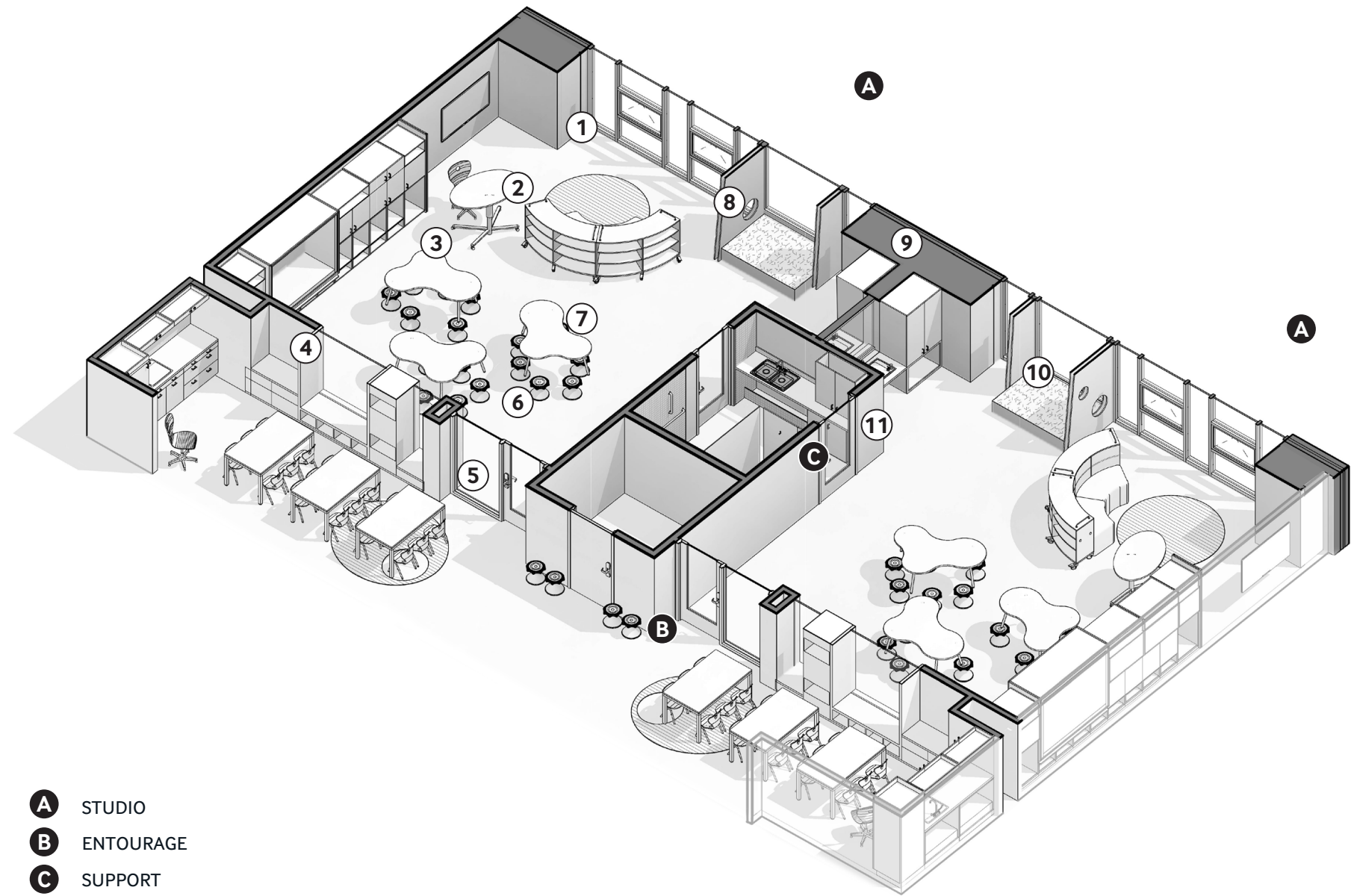


LEAP LAB AND HOOT HUB - 2ND FLOOR

Flexible Learning Spaces

- EXTERIOR VISUAL CONNECTION
- INTERIOR VISUAL CONNECTION
- INTERIOR PHYSICAL CONNECTION

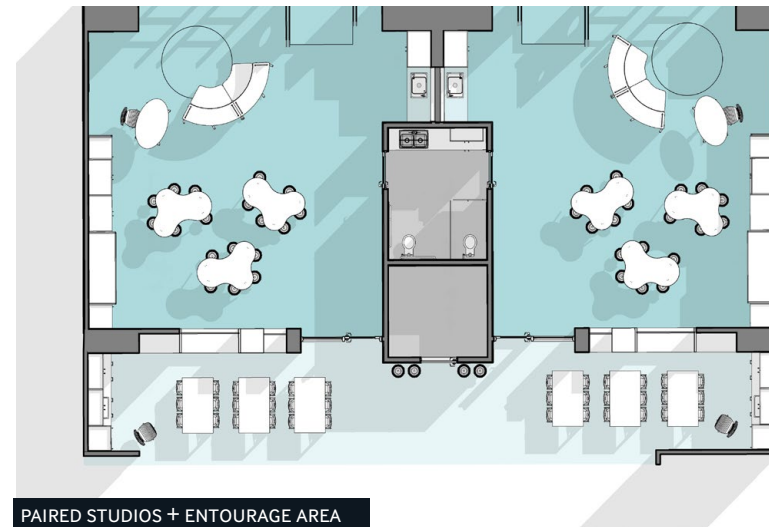
- ① INTERACTIVE TECHNOLOGY
- ② STUDENT STORAGE
- ③ READING NOOK
- ④ TEACHER WASHING / RESOURCE
- ⑤ ENTOURAGE / GROUP DINING + ARTS
- ⑥ ENTOURAGE STORAGE
- ⑦ HANDS-ON ACTIVE LEARNING
- ⑧ FOCUSED GROUP LEARNING
- ⑨ PERFORMANCE PLATFORM
- ⑩ STUDENT WASHING
- ⑪ SHARED STUDENT TOILETS



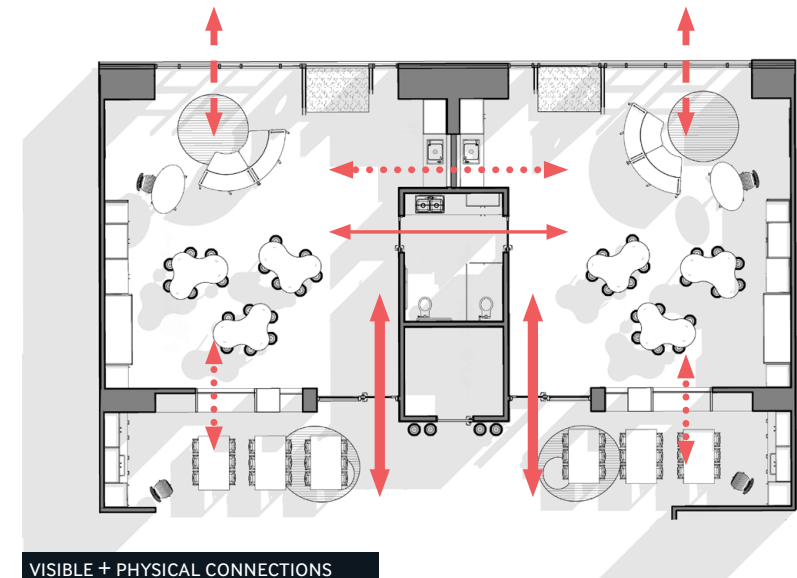
- A** STUDIO
- B** ENTOURAGE
- C** SUPPORT



STUDIO



PAIRED STUDIOS + ENTOURAGE AREA

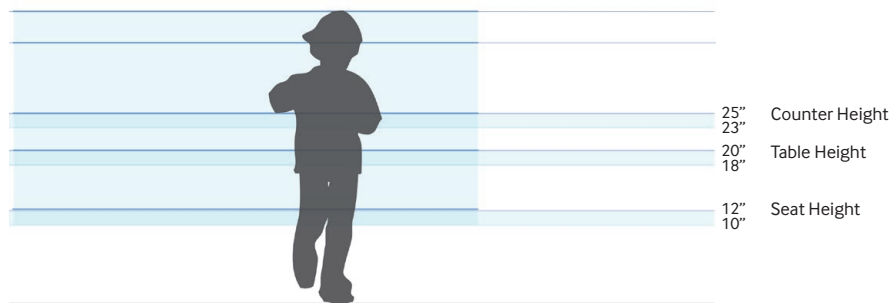


VISIBLE + PHYSICAL CONNECTIONS

Learning in a Neighborhood Setting

Community entourage areas along with hubs for literacy and movement engage circulation outside the paired studios to foster community and diverse active spaces. Interior environments are designed to foster optimal growth and development opportunities for exploration and learning while offering healthy connections to the outdoors. Play areas and a roof terrace support creative play, active movement and focused inquiry, sand and water play, and opportunities to explore nature.

The design of the ELC appropriately scales and positions kid-sized elements of the physical environment – such as shelves, counters, tables, seats, windows, benches, toilets, sinks, steps, and handrails – to create an environment custom-sized for young learners. Through this thoughtful scaling, children develop confidence in approaching new environments and take measured risks to meet their needs, whether they be autonomous or collaborative in nature.



PROGRAM SPACES

- CORE LEARNING STUDIOS
- PROFESSIONAL + STUDENT SUPPORT
- CIRCULATION + ACTIVITY SPACES
- ENTOURAGE COMMUNITY SPACES
- BUILDING SUPPORT

05

Physical Environment

RE-IMAGINING THE INTERIOR EARLY LEARNING ENVIRONMENT



FURNITURE THAT ALLOWS STUDENTS TO MOVE



ERGONOMICS FOR KIDS



TEACHER COLLABORATION HUBS



COMFORTABLE SEATING OPTIONS

USING EVERY SPACE TO LEARN

The ELC's physical environment accommodates the need for flexibility as pedagogic methods and practices evolve – while also strengthening, by design, the belief that every child learns in unique ways and teachers value opportunities to provide personalized, meaningful curriculum experiences for individuals and groups of all sizes. A variety of space types; studios, hubs, entourage, project space, teacher resource rooms, conference rooms, and outdoor classrooms foster collaboration, interaction, innovation and invention in both formal and informal settings. Indeed, the whole campus is designed to afford teachers the chance to use every space as a learning place; a creative knowledge community and living lab for sustainable practices. The design encourages creativity, curiosity and joy for an actively engaged community.

Specialized learning classrooms are integrated into the studio core to promote long-term programmatic flexibility, a sense of community, and belonging amongst learners and to ease transition-related sensitivities.

AGILE LEARNING ENVIRONMENTS

Provide furniture and technology that allows for movement and (easily arranged) variety of group sizes and activities to accommodate many teaching and learning styles.

Design kid friendly, teacher optimized wall systems that allow for brainstorming, displaying, presenting, pinning-up, lecturing, projecting, sharing, and interacting with curriculum and community.

Utilize a combination of mobile and custom storage solutions to bring resources close to teachers and students in areas of specialized activity and to free-up wall space.

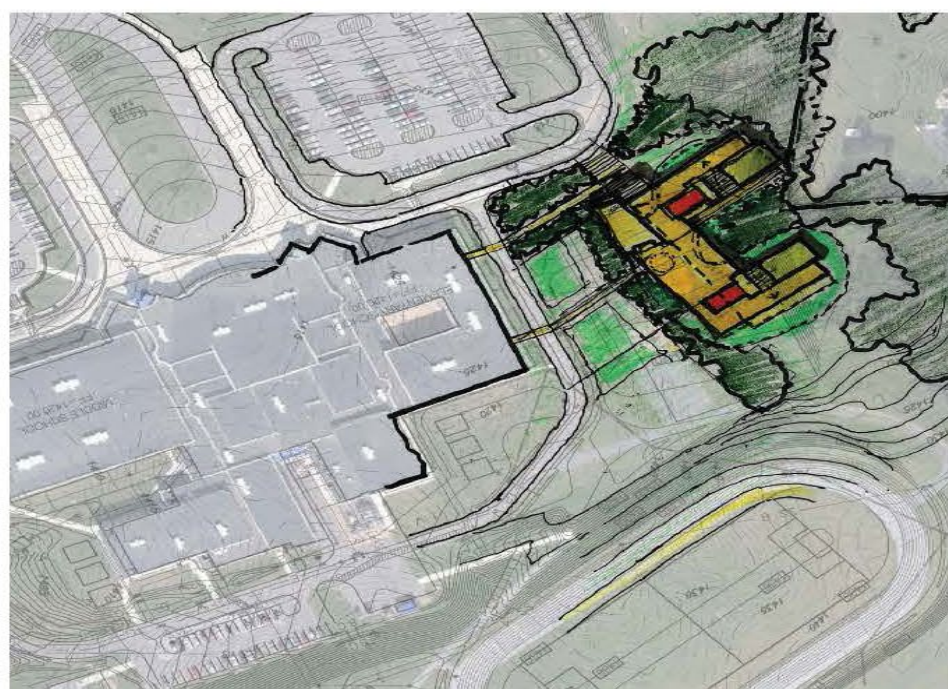
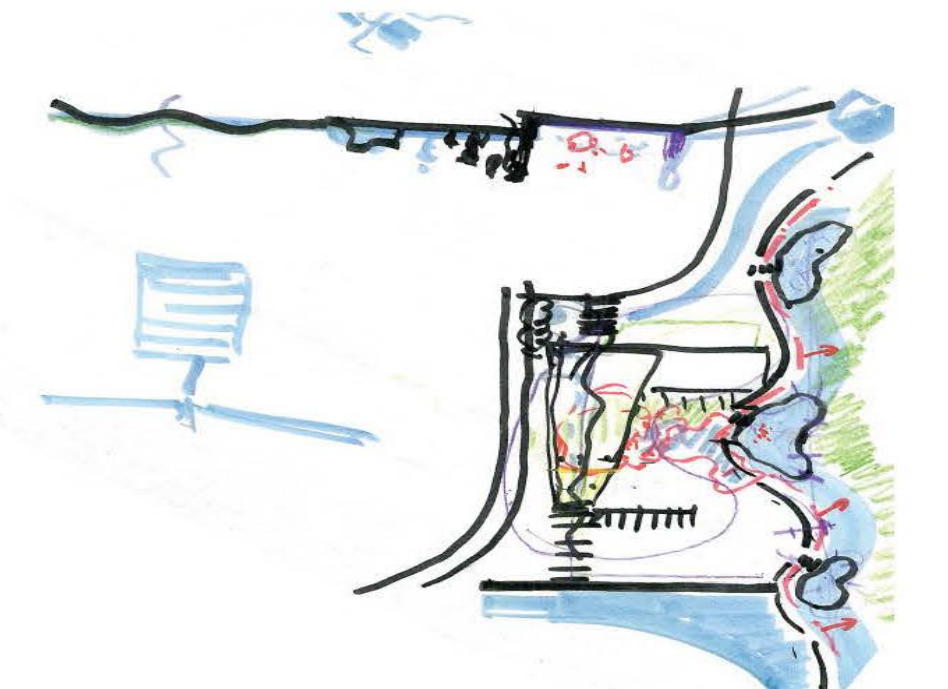
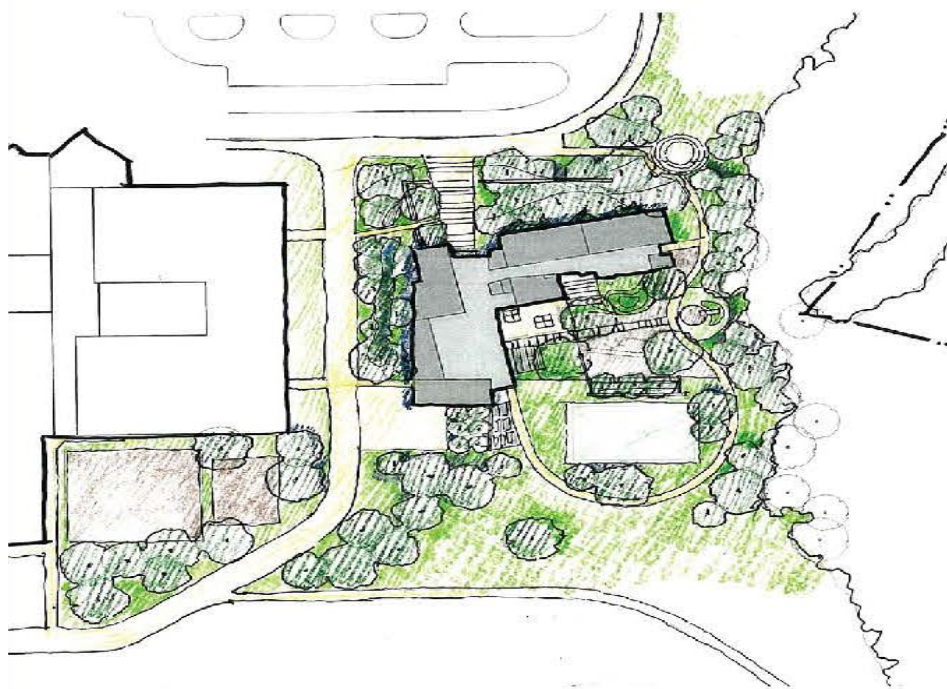
Integrate comfortable soft seating areas to engage students in casual discussions, team and project work, reading and storytelling, gaming and other social learning spaces that inspire connection and creativity.

ANYTIME, ANYWHERE LEARNING

The concept design landscape metaphor of the VALLEY, realizes the soft, rolling nature of local place as well as the exploratory, kinetic nature of young children encountering school for the first time at the Early Education Center.

The concept design featured building masses arranged as two learning neighborhoods connecting to a central spine, called the entourage area. The two-story school building and site configuration strategically creates a series of new open spaces as a series of gardens, playscapes, and outdoor learning environments. The transparent programmatic organization of the community entourage emphasizes the connection between interior pathways and exterior courtyards.

The main entry and primary circulation of the Center are arranged as an extension of the drop-off sequence and parallel to the physical activity promenade. The core learning neighborhoods, administration and teacher resource offices are adjacent to the first level public lobby. The Center is serviced by a portion of the existing fire lane re-designed as an access drive which leads to the service court for loading and unloading of commodities.



INITIAL DESIGN IDEAS RESPONDING TO THE SITE

Active Play + Site Features

Differentiated active play areas and site features offer options for movement and expression. Abundant daylighting and views to adjacent fields, forests, and outdoor play spaces promote both immersive experiences in nature and the natural curiosity of young learners as they explore the world around them.

As an addition to the existing Smithland Elementary School, the ELC creatively responds to the existing architecture and site through careful material selection and appropriate massing. The existing playground continues to support Smithland's K-5 grades while a separate play area for ELC students offers a variety of age-appropriate active playscapes.

The chromatic, natural palette that links material choices to local resources provides visual continuity and grounds this Center as a vital new focus for the academic and cultural life of the community as well as a "Gateway" to learning culture for both visitors and the surrounding community.



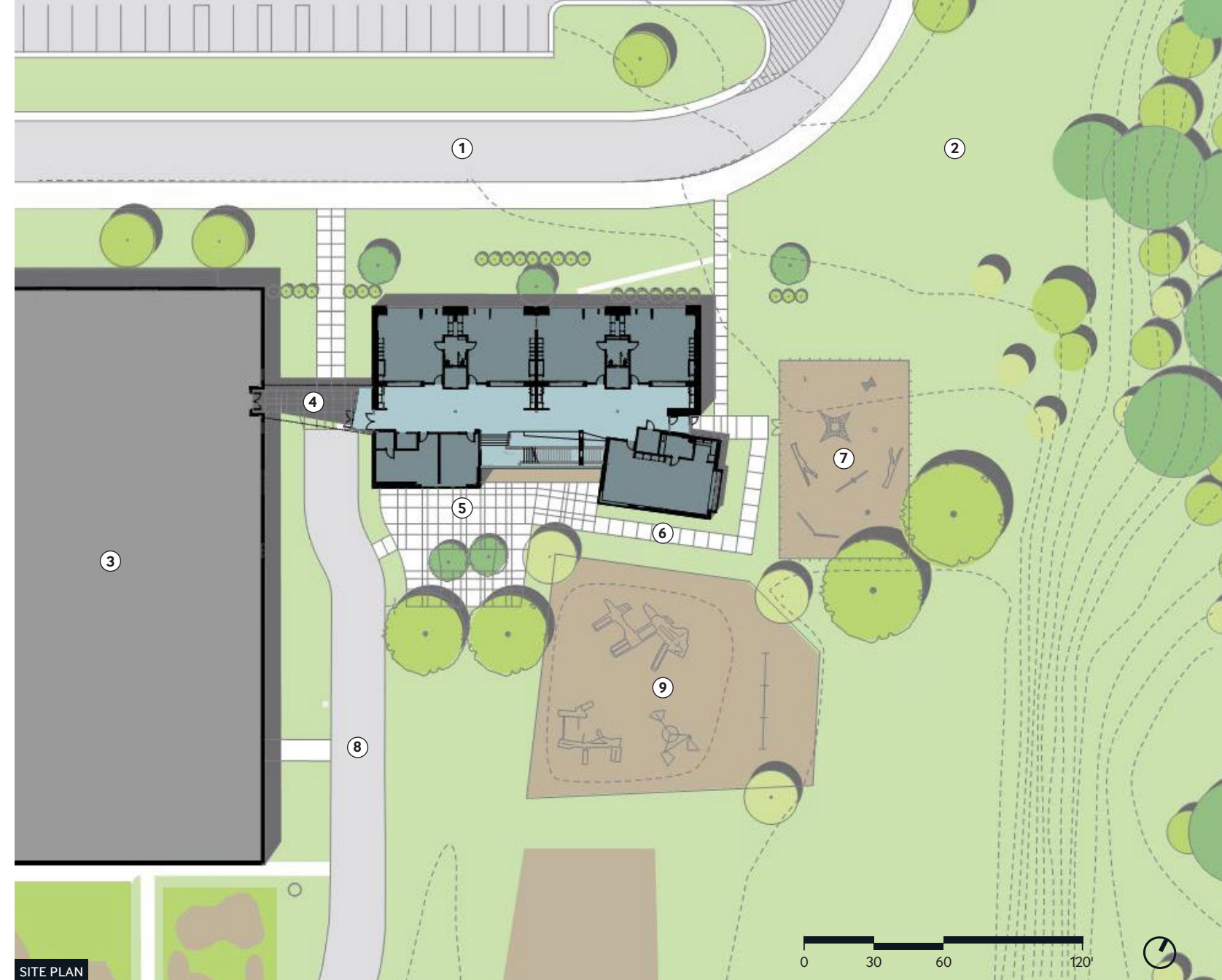
Site Strategies + Sustainability

During pre-design and programming, the design team reviewed the site's natural resources and challenges. A series of studies were tested to identify the best strategies to coordinate site planning with new building and landscape improvements in concert with the site's existing stormwater, utility, and transportation infrastructure. Tested in the context of a broader analysis of the site's relationship to the existing school and fire access road, the site design was calibrated to create new linkages between the new school and the core campus with development north, west, and south of the site.

The concept design incorporates a number of high performance building initiatives at a range of scales including innovative stormwater capture and management, energy efficient HVAC systems and envelope design, rainwater capture and storage, PV-solar ready roof strategies, and geothermal ground system toward a climate neutral building concept. Systems are expressed and made visible to promote the building as a teaching tool. The project is currently tracking LEED Gold certification, and is modeling an energy use index (EUI) of less than 20.

SITE PLAN

- ① BUS + DROP OFF LOOP
- ② GEOTHERMAL WELL-FIELD
- ③ EXISTING SMITHLAND ELEMENTARY SCHOOL
- ④ BRIDGE CONNECTOR
- ⑤ PLAY TERRACE
- ⑥ TRIKE PATH
- ⑦ ELC PLAYScape
- ⑧ SERVICE DRIVE
- ⑨ K-5 PLAYScape

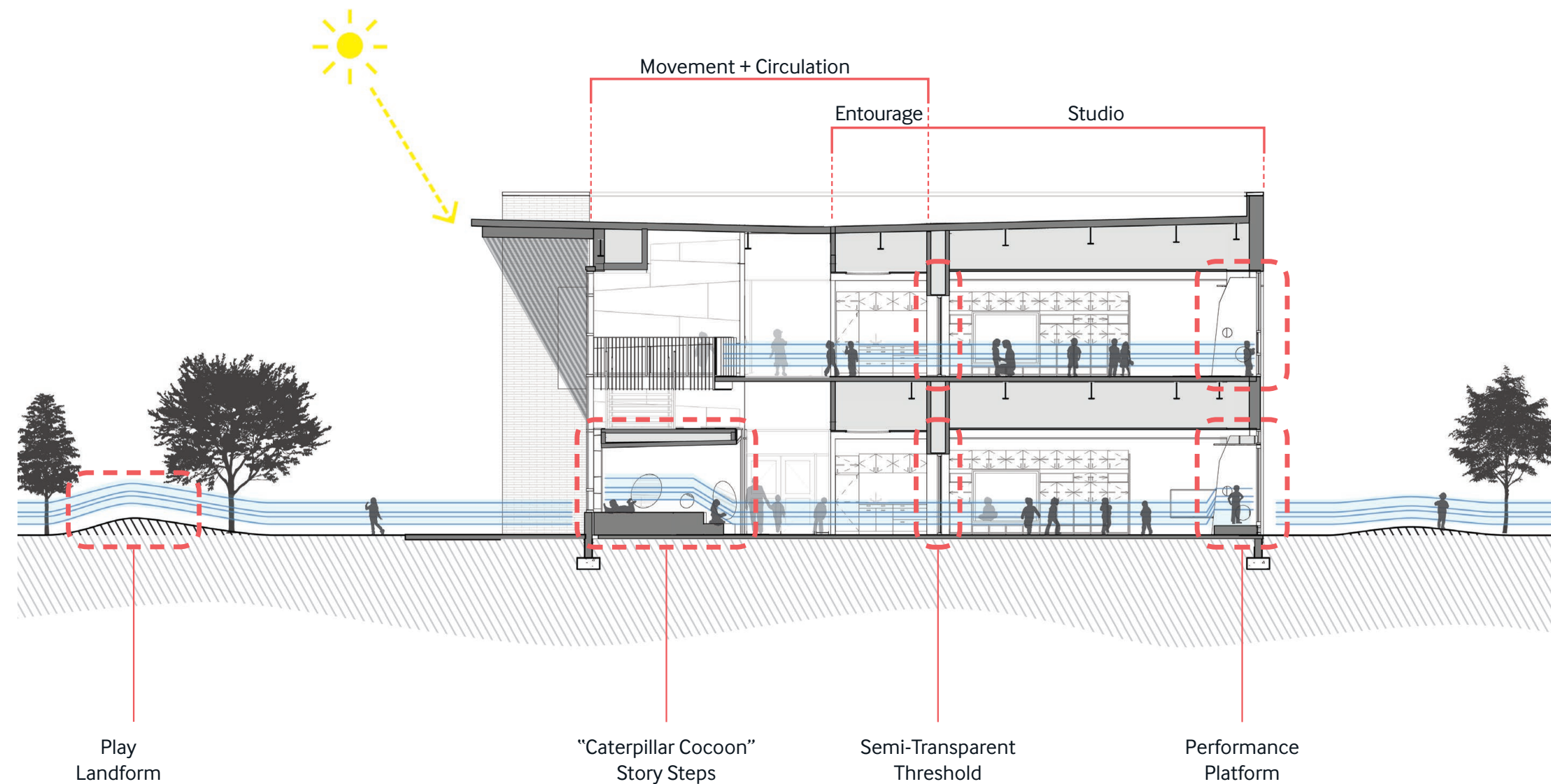


EXTERIOR AT DUSK

A Living Lab for Learning

The design creates distinct academic neighborhoods for early childhood learning. The second floor situates Movement, Art, and Music studios alongside learning neighborhoods and outdoor terrace playscapes to make the entire school a living lab for learning and exploring.

Recognizing that the whole is greater than the sum of the parts, the ELC establishes a forward-looking program, affirming HCPS's commitment to excellence in education, innovation, and the vibrancy of learning, living, playing, and discovering within the context of skillful and expert teaching professionals.



06

Results of the Process + Project

Access to Healthy, Happy Spaces

The hope during the planning process was to create a series of interior and exterior settings that support a robust and expansive program for Early Childhood development, recognizing that early learning experiences are most powerful when embedded within the fabric of a community. Reciprocity between the site, building design, pedagogy, and knowledge of how children learn at early stages of development is at the heart of the Early Learning Center.

Initial feedback reinforces the positive attributes of the shared entourage area, which serves as a community hearth for dining, hands-on learning, art, and gathering. Teachers appreciate the passive surveillance opportunities afforded by the transparency, as well as feelings of health afforded from the views to nature. Students feel part of a community, while having the ability to simultaneously view outside and into their learning studio.

The bridge connecting the ELC to Smithland Elementary is also a favorite space among teachers and students. What could have been a simple, practical connector bridge has been conceived as reading nook that teachers use to supplement other available learning and movement stations. Students from the Elementary School are known to “sneak” onto the bridge to enjoy the views outside and warmth of the sun while reading a book!



BUTTERFLY READING NOOK WITH CONNECTIONS TO NATURAL EXTERIOR

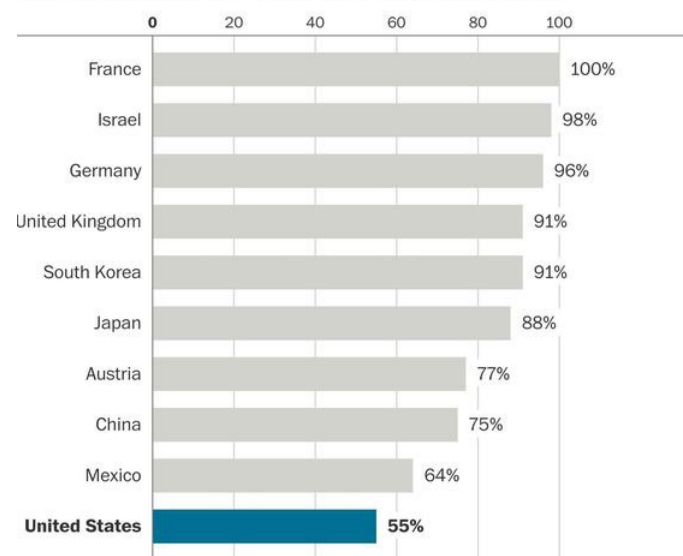


LEARNING STUDIO

Early Childhood Research

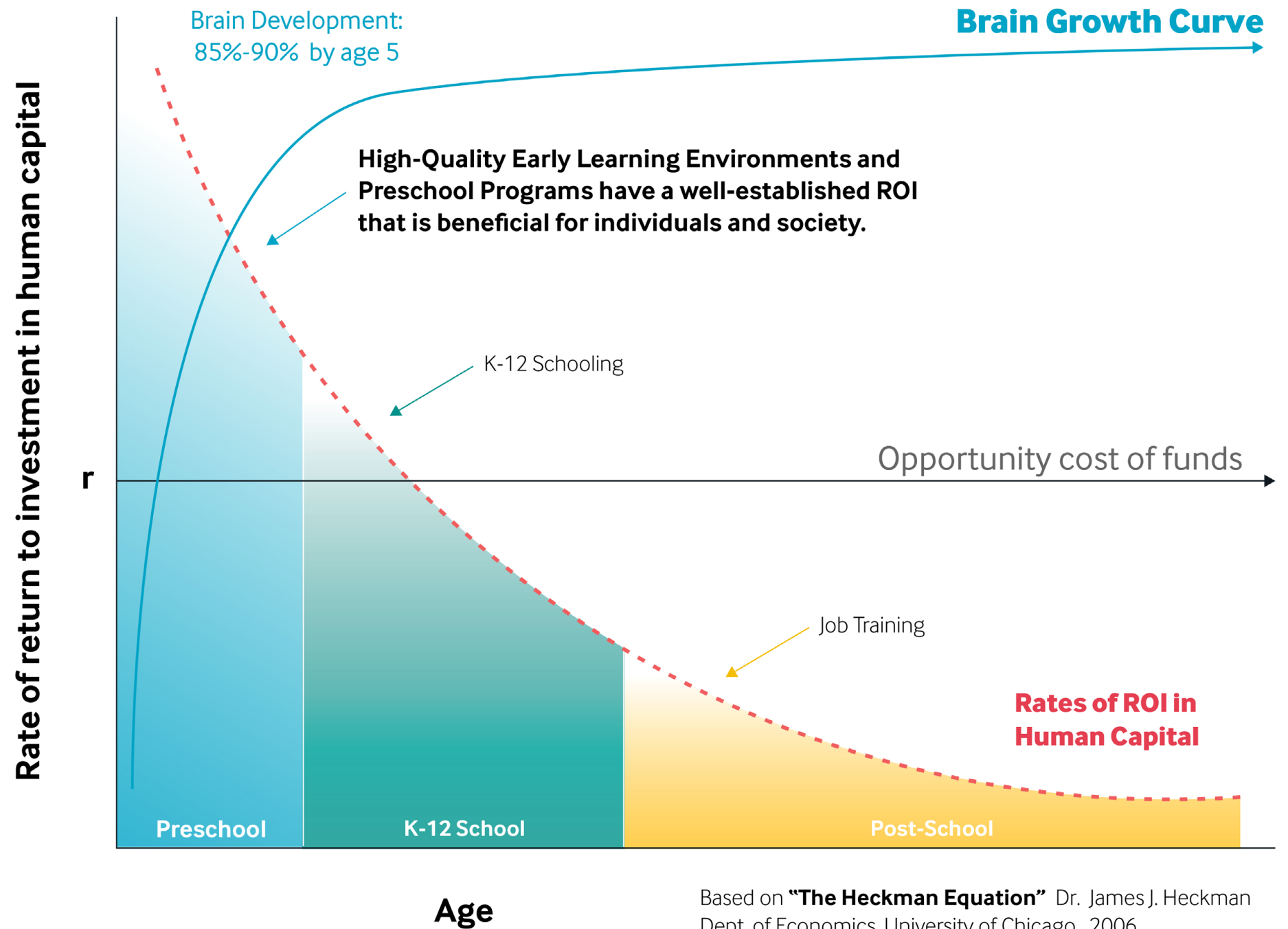
The design team's work on the ELC led to research on early childhood learning and increased state-wide advocacy for facilities dedicated to early childhood learners. While 85-90% of brain growth happens before children reach school age, Americans spend less than 11% of our education dollars on children before kindergarten. Despite wide bipartisan support for publicly funded early childhood programs, most states legislatures have not prioritized the issue. Decades of research make a compelling case for broader, more accessible publicly funded preschool programs. This evidence is also reinforced by economic evaluations that quantify both the positive economic returns to society and the wide range of positive educational outcomes. Improving access and quality of early childhood development and early learning environments would make it one of the nation's most profitable social investments.

Enrollment Rates of 3- and 4-year olds in pre-school



Source: OECD Social Expenditure Database
WASHINGTON POST

EARLY CHILDHOOD LEARNING: Return on Investment



Based on **"The Heckman Equation"** Dr. James J. Heckman
Dept. of Economics, University of Chicago. 2006

Benefits of Early Childhood Learning

An increasing number of economic, scientific, and sociological research supports the claim that early childhood development, including well designed facilities, classrooms, and learning environments are crucial investments that can pay big dividends beyond just the school system. Some initial research from a diverse array of fields corroborate the positive social impact of early childhood education:

- **Broad Social and Individual Returns:** Research shows that every \$1 spent on early childhood programs distributes a 13% per year return on investment. The positive returns include long-term cost savings due to better outcomes in public health, educational attainment, employment opportunities, and income potential.
- **College Graduation Rates:** Researchers have found that holistic school readiness were strong indicators for college graduation by age 25.
- **Reduction in Poverty:** Early childhood programs generate benefits of as much as \$8 to \$17 for every \$1 in cost. Some benefits include higher graduation rates, less crime, and greater economic productivity, as well as reduced poverty rates.
- **Benefits for Mothers/Parents:** Comprehensive early childhood programs have been shown to benefit maternal well-being and mental health and also increase the economic prospects for mothers and children.
- **Increased Saving for Families:** According to reports from Child Care Aware America, the “unaffordability” of child care is one of the most significant expenses in a family budget, often exceeding the costs of housing, food, and even tuition.
- **Reducing “Gaps” and Systemic Disparities:** Studies show that supporting high-quality early learning environments and programs is a critical strategy in reducing many growing gaps in society.

