INSIGHTS

BUILDING HAPPINESS

Transforming early childhood learning environments

VS Wight

INSIGHTS by VS
offers planning resources for innovative learning environments. Inspired by conversations between educators and architects, INSIGHTS illustrates important connections between learning and learning places. This fourth edition of INSIGHTS is based on conversations with Wight & Company, Ann Reid Early Childhood Center, and the Des Plaines Early Childhood Center. **www.vs-network.com**

Wight & Company
As a nationally ranked design firm and leader in education solutions, Wight delivers next-generation learning environments that promote safety and inspire discovery. Wight's professional staff of architects, engineers, construction managers and LEED-Accredited Professionals believe that 21st-century schools must be engaging, experiential and nimble enough to support dynamic learning that stands the test of time. With comprehensive planning, design and construction services for public, charter and private schools, Wight has been recognized with countless architectural design awards, including the Ann Reid Early Childhood Center–the first newly constructed LEED Silver certified public school dedicated to early childhood learning. Learn more at **www.wightco.com** and follow the progress at **@wightco**.

Resources

[1] National Forum on Early Childhood Program Evaluation and the National Scientific Council on the Developing Child. *A Science-Based Framework for Early Childhood Policy: Using Evidence to Improve Outcomes in Learning, Behavior, and Health for Vulnerable Children*. Harvard, MA: Center on the Developing Child, Harvard University, 2007. http://developingchild.harvard.edu/index.php/resources/reports_and_working_papers/policy_framework/.

[2] Center on the Developing Child and the National Scientific Council on the Developing Child. "Three Core Concepts in Early Development." Harvard University, videos, accessed July 6, 2013, http://developingchild.harvard.edu/resources/multimedia/videos/three_core_concepts/.

[3] Center on the Developing Child. "Five Numbers to Remember About Early Childhood Development," Harvard University, accessed July 6, 2013, http://developingchild.harvard.edu/resources/multimedia/interactive_features/five-numbers/.

OPEN DOORS TO OPEN MINDS

early childhood education *[ur-lee chahyld-hood ej-oo-key-shun]*: *noun*, a term used for instructional programs designed to help children ages infant through 8 years old; programs cater to kids with special needs (physical or cognitive) or at-risk challenges (social, emotional or behavioral), as well as to typically developing learners.

The first five years of a child's life have a tremendous impact on his or her quality of life as an adult. Studies show children in early education programs are more likely to score higher in reading and math, graduate from high school, attend college and hold a job–as well as earn more in that job.

If we can build stimulating interactions into a child's early experiences, we can create a strong foundation for them to thrive. That's the promise of early childhood education programs: to help children reach their full potential not just academically, but socially and emotionally. There are many foundations that we can influence to build promising outcomes, including a child's brain, educational curriculum and physical surroundings.

Five numbers to remember[3]

700 Number of new neural connections formed every second in the first few years of life

18 MONTHS OLD — Age at which disparities in vocabulary begin to occur

90–100% Chance of developmental delays if a child experiences at least 6 risk factors in first three years of life, such as poverty or abuse

3:1 Odds of adult heart disease after at least 7 adverse childhood experiences

$4–$9 Returns for every dollar invested in early childhood programs

NURTURE NET WORTH

"One of our parents called our building a magical place. I love that. When you put your foot in this door here, you can't help but be happy. All the kids are loved and cared for, and the building is a big part of that."

–Margarite Beniaris
Director of Early Childhood Center
Community Consolidated School District 62
Des Plaines, Ill.

Goals of early childhood education

While there are not yet national standards, early childhood education programs across the country are increasingly developing guidelines with these universal goals:

- Provide multiple, varied and interactive hands-on learning experiences
- Help children achieve social, emotional, linguistic, physical and cognitive goals
- Promote creativity, reasoning and problem-solving skills
- Encourage curiosity and exploration
- Allow flexibility for children and teachers
- Promote feelings of safety, security and belonging
- Engage families early in a child's education
- Provide a balance between individualized instruction and "blended" activities for each child

CATCH ME IF YOU CAN

Early Childhood Education has started to gain serious political attention in the past decade, as 40 years of research are finally coming to life. In July 2010, Congress reappropriated $300 million for President Barack Obama's Early Learning Challenge Fund, a competitive grant geared toward providing services for children under age five. This builds on previous federal education reform programs such as Head Start and No Child Left Behind.

"Think about the value and investment in educating young children," says Jeannie Matula, principal at the Ann Reid Early Childhood Center in Naperville, Ill. "For every dollar spent at the early childhood level in education, at least $7.00 is saved (in remedial education, special education, welfare, prison, etc.). There is no way to go back and make up for those lost years, and the number-one way to prevent a child from falling behind their peers is to not let them fall behind in the first place. By investing in preschool education, you prevent a child from starting kindergarten already behind. A school designed for these young learners conveys that they are valued and that you care about their education."

Advances in the science of early childhood brain development, combined with integrated curriculums and resources, can provide a strong foundation for policymakers to design a unified, effective agenda for "catching" kids early in their development.

Bright and Early

Early Childhood Education uses specialized methods of teaching, such as the *Creative Curriculum*,® which emphasizes learning as a creative process for both children and adults. Kids are encouraged to learn by actively exploring a dynamic and safe environment. Early childhood curriculums must be flexible, since kids in the same classroom will be at varying levels of development and have different physical and cognitive challenges.

ESSENTIAL BEGINNINGS

The developing brain is a child's first built environment. What happens when the external environment is at odds with that development? How do socioeconomic challenges or developmental needs come into play? What is science telling us that we need to know as educators, policy makers and designers of schools?

A growing body of scientific evidence shows that early experiences—both positive and negative—determine whether a child's developing brain provides a strong or weak foundation for all future learning. Healthy development in the first few years of life can make all the difference in educational achievement, economic productivity, responsible citizenship, lifelong health, strong communities, and even successful parenting of the next generation.[2]

Researchers now have a science-based framework to help guide early childhood policies and practices, as outlined in the next section.

THE ABCs OF BRAIN ARCHITECTURE

The science of Early Childhood Education is based on three core concepts[2] that have been established over decades of research:

Concept A: Early experiences are built into our bodies

Starting well before birth, billions of cells in a child's brain start sending electrical signals to each other, communicating and building circuits. This process is shaped by a child's experiences. The circuits that are used more frequently become stronger, while the lesser-used circuits start to fade away in a natural process called pruning. At first, the brain forms simple circuits for simple skills. Over time, the circuitry becomes a very complex and connected set of centers in the brain that specialize in sensory functions like vision and hearing, emotional development, behavioral control, motor skills, and language and memory. What's important to remember is that the circuitry is highly integrated: you can't perform one function without the other.

Concept B: Interactive exchanges shape brain circuitry

Young children naturally reach out for interaction through babbling, facial expressions, and gestures, and adults respond by vocalizing and gesturing back at them. This back-and-forth "serve and return" process is fundamental to the wiring of the brain in key functions. For example, when a child points to what she sees in a book, the adult responds by saying the name for the object.

Concept C: Toxic stress derails healthy development

While learning how to cope with moderate stress is healthy, toxic stress in the absence of protective adult support can wreak havoc on a developing brain. The unrelenting stress caused by extreme poverty, neglect, abuse, or severe maternal depression can weaken the architecture of the developing brain, with long-term consequences for learning, behavior, and both physical and mental health.

RIGHT BRAIN, NEW OUTLOOK

early childhood center
[ur-lee chahyld-hood sen-ter]: noun, a facility that is specifically designed to address the educational and related developmental needs of young children ages infant to five who have physical, cognitive and/or emotional disabilities or challenges, or who are experiencing developmental delays. These centers also offer programs for typically developing learners, whose families pay tuition to attend.

Public school systems are required to provide qualified preschool-aged kids with free specialized services to help them get the best start in life. Unfortunately, school districts often localize these early childhood learning services by school, creating many smaller facilities per district. Larger, more specialized Early Childhood Centers (ECCs) are an exciting solution to these piecemeal offerings because they centralize all services in one location, thereby maximizing physical and financial resources while enhancing efficiency and collaboration. A well-designed Early Childhood Center can accelerate development to help kids soar.

Benefits of Early Childhood Centers

- Create a nurturing environment for students and families while maximizing shared resources, therapists and faculty
- Give kids better socialization skills that prepare them for learning
- Help identify kids with special needs and provide early intervention
- Prepare kids for easier transition into compulsory grade levels

Multiple-choice answers

At the Ann Reid Early Childhood Center in Naperville, Ill., space is divided into a "learning village" of four educational neighborhoods to put children at ease and provide multiple opportunities for interaction and informal, do-it-yourself education.

Go your own way

Spaces are designed for freedom at the Des Plaines Early Childhood Center in Des Plaines, Ill. The floor plan layout has a meandering quality that mimics the experience of walking through a forest.

DISCOVERY ZONES

According to PK-12 architects Craig Siepka and Kevin Havens at Wight & Company, an architecture, engineering and construction firm, the same design considerations that go into 21st-century learning environments also apply to Early Childhood Centers. While designing these interactive learning environments, Siepka and Havens emphasize the importance of viewing the built environment through a child's eyes. "The exploration part is key," says Siepka. "We have to constantly ask ourselves, 'What can we do to make the space more engaging for kids—to stimulate the senses and welcome the spirit?'" Adds Havens, "Young children are natural explorers. They are instinctively curious about their world. We believe that thoughtfully designed school environments can inspire a habit for discovery."

The functional and poetic juxtaposition of features that Siepka and Havens have integrated into their Early Childhood Centers are explored on the pages ahead.

Swivel to attention

Studies have found that dynamic seating can improve blood circulation and oxygen flow, making concentration easier. The Hokki Stool by VS Furniture transforms stationary sitting into active learning, with movement in all directions.

TRIGGER ACTIVE ENLIGHTENMENT

A typical classroom at Ann Reid Early Childhood Center offers an inviting stomping ground where kids can feast on diverse, collaborative discovery. The physical surroundings supports the center's mission to help children become self-directed learners and complex thinkers.

Agile

Maximizing every inch of available space extends the learning environment beyond formal instructional areas and provides a flexible canvas that can adapt over time. Moveable furnishings that can be reconfigured on a dime play a vital role in establishing a customized learning experience.

Convenient

Easy access to amenities such as child-height sinks, diaper stations and storage cubbies encourages good hygiene and safety.

Intimate

Everything is scaled to fit a child's proportions. Seating nooks, loft spaces and breakout areas are nestled within the irregularly shaped classrooms to allow for quiet reflection away from the dynamic activities of the day.

Sensory rich

A variety of materials and textures fosters discovery and exploration, while abundant natural light heightens awareness and lifts the spirit. Sustainable design elements serve the dual purpose of conserving energy and promoting healthy living habits.

PUT THE FUN IN FUNDAMENTALS

Instead of being confined to a typically enclosed book nook, the library at the Des Plaines Early Childhood Center is featured in an expansive hallway that extends and redefines the learning landscape. The meandering halls replicate the experience of moving through a forest, with surprises around every turn.

Comfortable
Using warm, tactile materials, colors and furnishings, such as floor-to-ceiling tackable surfaces to display children's artwork, deepens familiarity and ownership of space.

Layered
Glass partitions of varied opacity connect one area to the next, creating a sense of transparency and openness, while maintaining acoustic privacy and thermal comfort.

Diversified
Playful touches recall the optimism of youth. Subtler features invite children to use their imagination and create opportunities for surprise and delight.

Narrative
Both literal and allegorical features deepen personal connections between users and their environment.

IMAGINE A CHILD LIKE

While the design solutions of Early Childhood Centers align with 21st-century approaches that support dynamic, media-rich learning, the classroom canvas must be constantly re-evaluated to meet each young learner's unique cognitive, physical and behavioral challenges.

Build for change and blaze the way.

Sensory storytelling

Our senses can trigger memory in powerful ways. A setting that's rich in thematic touches via tactile materials, personalized furniture, and natural framing can help kids retain and retrieve what they learn. It also makes the world a lot more fun, as shown in this virtual narrative landscape.

Neighborhood courtyard

A safe, secure extension of the learning environment features interesting textures that encourage interaction, while outdoor restroom access helps staff stay focused on kids.

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Typical classroom storage configuration

Both adult- and child-height appliances maximize space while encouraging early independence and good hygiene.

Reading nook

Project displays and dramatic play space in the commons area provide kids with more opportunities to learn.

Classroom entry

Room signage doubles as an educational moment and strengthens classroom identity.

Neighborhood commons

Mirroring the experience of an active streetscape promotes the notion of community.

Typical classroom configuration

Classrooms are designed to maximize natural light, with irregularly-shaped and sensitively-scaled furniture that goes where kids go.