
Understanding School Readiness Through the Pyramid of Learning

~ Rie Seo

In Waldorf early childhood education, we place great importance on the first seven years of life as a sacred and formative time. It is during these years that the groundwork for lifelong learning and well-being is laid. We observe daily how each child's physical, sensory, emotional, and social development unfolds uniquely, yet follows a universal rhythm.

At the Waldorf School of Garden City, we have established a tradition of organizing an annual family evening that focuses on the development of readiness for first grade during the early childhood years. Over time, we have explored various approaches to share what we consider to be a crucial unfolding process in a child's educational journey.

In our discussions this year, we introduced the Pyramid of Learning, a concept developed by special educator Maryann Trott and occupational therapist Kathleen Taylor. This insightful framework was brought to my attention by my colleague, Helena Vancells, whose dedication to her work and her willingness to share her research with us have been invaluable. I am truly grateful for her contributions and generosity.

To explain why early development must unfold step by step, we often use analogies that speak to the practical imagination. Imagine being asked to fly a commercial airplane with no training—no matter how willing or intelligent you are. First, you'd need to learn the basics, develop confidence, and understand the mechanics. In the same way, we wouldn't begin building a house with the chimney or the wiring. We start with the foundation. This is just as true for the child.

The Pyramid of Learning offers a clear and practical framework for understanding child development. It gives language and structure to what we observe daily: that true learning and academic readiness grow from the integration of the four foundational senses—not from early exposure to intellectual content or rote memorization. Higher cognitive capacities, such as reading and writing, rest on deeply rooted layers of sensory integration, motor coordination, neurological

organization, self-regulation and much more. This model helps us see how these developmental layers build upon one another. It offers educators and caregivers insight into why movement, rhythm, warmth, and rich sensory experiences are not just beneficial but essential to learning.

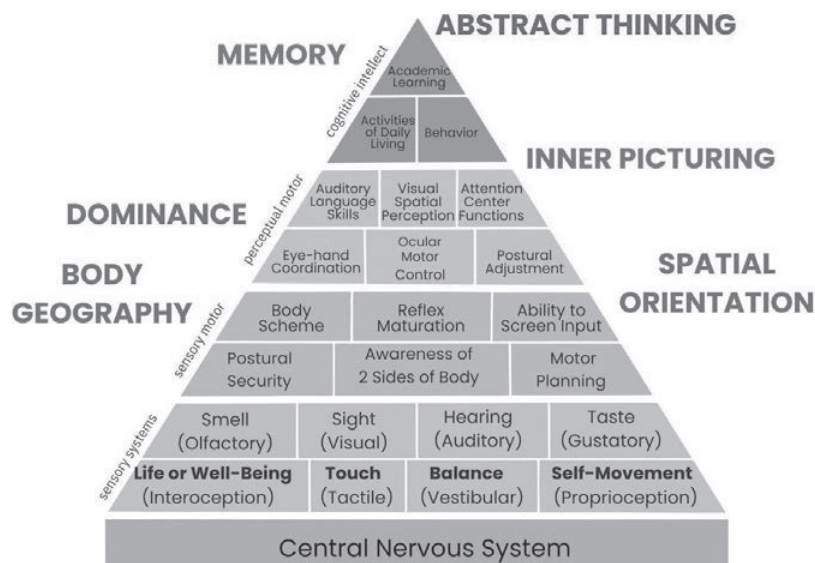
This integrated view—that development is bottom-up, sensory and movement-driven, and sequential—is not unique to Waldorf education. It is affirmed across disciplines, including neuroscience, sensory integration theory, and developmental psychology. Research shows that early sensory and motor experiences profoundly shape physical, cognitive and emotional growth.

We've found that the Pyramid of Learning aligns with the anthroposophical understanding of child development, offering shared language to engage with colleagues, therapists outside the Waldorf movement, and the families we support. To better reflect this alignment and Waldorf pedagogy, we added items to the Pyramid, such as Body Geography, Spatial Orientation, Dominance, Memory, Inner Picturing, and Abstract Thinking.

By bringing these perspectives together, we were able to visually convey to families the depth and significance of the work young children undertake in their early years before entering first grade. This message not only highlighted the relevance to Waldorf education but also addressed the universal process of preparing for higher learning, including literacy and numeracy. It became both a practical tool and a meaningful bridge—linking contemporary developmental science with the spiritual insights of anthroposophy.

The layers of the pyramid include:

1. **Central Nervous System:** The physiological platform upon which all sensory and motor development rests.
2. **Sensory System:** Includes Touch (tactile), Self-Movement (proprioception), Balance (vestibular), and Well-Being (interoception). These align with the foundational senses described by Steiner,



Adapted from the Taylor-Trott Pyramid of Learning, originally developed by occupational therapist Kathleen Taylor and special educator Maryann Trott

which influence how securely a child perceives and interacts with the world.

3. **Sensory-Motor Development:** Includes postural control, bilateral coordination, midline integration, primitive reflex integration, and motor planning. These capacities allow children to move with purpose and confidence.
4. **Perceptual-Motor Development:** Encompasses visual and auditory processing, eye-hand coordination, postural adjustment, and spatial awareness. These form crucial bases for classroom tasks like writing, drawing, and following verbal instructions.
5. **Cognitive and Academic Skills:** Blossom only when earlier layers are fully developed. This tier includes memory, inner picturing, abstract reasoning, language fluency, emotional regulation, and the ability to focus attention.

In presenting this at our family evening, we took time to review each layer and its components, highlighting the crucial role each one plays in supporting the overall structure of development. We also incorporated fun movement activities between sections to allow families to experience each capacity firsthand. This approach helped us demonstrate how our practices in Waldorf early childhood classrooms foster the development of these essential capacities.

Next, I'd like to briefly walk you through each part of the Pyramid and share how we've connected them to our work in Waldorf education. We've intentionally included both Waldorf language and terminology from contemporary developmental science to highlight the alignments between them.

The Sensory Systems

At the very base of the Pyramid are the foundational senses—they form the bedrock of a child's ability to feel grounded in their body and connected to the world around them.

- **Touch (Tactile)** offers the child a sense of boundary and form, and helps them differentiate themselves from the outer world. The sense of touch is essential for building a sense of safety, separation, and self-containment, qualities necessary for later independent thinking.
- **Self-Movement (Proprioception)** provides information from muscles, joints, and tendons about position, movement, and force. It allows the child to move with purpose without constant visual monitoring of body parts.
- **Balance (Vestibular Sense)** The vestibular system, located in the inner ear, governs our ability to maintain upright posture, coordinate spatial movement, and orient ourselves in the three dimensions of space: up/down, left/right, and front/

back. A healthy vestibular system supports not only physical balance but emotional equilibrium.

- **Life Sense (Interoception)** allows the child to perceive internal states, such as comfort, hunger, fatigue, and overall well-being. When this sense is in balance and supported by the other foundational senses, it sends the reassuring message that the child is safe—freeing them to engage more fully in learning, play, and social connection.

When these senses are supported, the child begins to trust their body and the world around them—forming the roots of trust, autonomy, and resilience—qualities essential for true learning to take place.

The Sensory-Motor System

This tier of the Pyramid of Learning represents a leap forward: the transformation of involuntary, reflexive movement into coordinated, intentional action. This integration is neither linear nor automatic. It is the result of the child's direct experiences of movement, resistance, space, and rhythm, often gained through free play, imitation, and engagement in meaningful work.

- **Postural Security** The child who has developed sufficient proprioceptive and vestibular integration begins to display postural security: the ability to maintain upright balance and orientation without constant fear of falling. From this security arises the ability to differentiate two sides of the body, a key neurological milestone.
- **Awareness of the two sides of the body (Bilateral Coordination)** At birth, movements are typically symmetrical and reflexive. Over time, the child begins to separate the right and left sides, laying the groundwork for bilateral coordination. This capacity allows the child to perform complex actions, such as tying shoes or holding paper with one hand while writing with the other. It also marks the emergence of hemispheric integration, where the brain's right and left hemispheres begin working in concert.
- **Primitive Reflex Integration** Primitive reflexes are involuntary movement patterns that play a crucial role in helping children develop coordinated movements, particularly during their first year of life. Once they have fulfilled their purpose, these reflexes generally diminish, paving the way for intentional movements. However, if they persist beyond their typical timeline, they hinder the freedom of movement

necessary for activities like reading, writing, and copying from the blackboard. Movement lessons such as eurythmy and gymnastics may prove to be challenging if these reflexes are still retained. Integrating primitive reflexes is essential for fostering higher neurological skills.

- **Crossing the Midline** (Not in the original pyramid, but added in tandem with the reflex integration.) The body is organized by invisible planes: the horizontal (top/bottom), vertical (right/left), and coronal (front/back) midlines. When children reach across these lines, they are not just moving physically—they are building neural pathways that support communication between the brain's hemispheres. Tasks such as reading left to right, writing across a page, and sequencing numbers all depend on the ability to perceive and move across midlines.
- **Motor Planning** is how the brain figures out and organizes a movement before the body does it. It helps turn an idea into action by putting together the steps, timing, and effort needed. With practice, movements become smooth and automatic. For example, a child learning to ride a bike may need to focus on each part—balancing, pedaling, steering—but once the skill is in place, the child can ride without thinking about every step.

In Waldorf pedagogy, movement is not added for enrichment—it is foundational. Activities like crawling games, rolling, balancing, and imaginative play often provide the exact sensory experiences needed for reflexes and midlines to recede naturally, allowing volitional movement and motor planning to emerge.

- **Ability to screen input** The ability to screen input is the skill of sorting through all the sensory information coming in and focusing on what's important. Young children are constantly taking in sights, sounds, and sensations, which can sometimes feel overwhelming. As this ability develops, they become better at tuning out distractions and paying attention to what truly matters—like listening to a teacher's voice instead of the noise in the background. In Waldorf classrooms, this skill is gently nurtured through our rich oral tradition, which invites children to listen with focused attention. Joyful and imaginative music, storytelling, and nursery rhymes all help engage the senses in a way that supports this growing capacity.

Emerging Capacities: Body Geography, Spatial Orientation, Dominance

As foundational reflexes integrate and the senses mature, several critical capacities begin to emerge:

- **Body Geography** refers to the internal awareness of one's own body parts and their relationships. This awareness allows children to perform daily tasks—such as dressing, climbing, or handwriting—without constant visual monitoring.
- **Spatial Orientation** is the ability to perceive oneself in space and navigate within it. It supports understanding of directionality (left/right, up/down, front/back), sequencing, and later, mathematical problem-solving.
- **Dominance** refers to the establishment of a preferred hand, foot, eye, and ear. This is a sign of neurological specialization and is necessary for developing fine motor skills, especially in writing and tool use.

These capacities form a bridge between the child's inner sensory world and the outer environment. Children begin to move with greater fluency, organize their actions intentionally, and engage with the world more independently, laying the foundation for higher cognitive activities.

The Perceptual-Motor System:

The perceptual-motor system allows the child not only to move with purpose but to perceive with clarity, coordinate complex actions, and orient themselves with precision in both physical and social space.

- **Eye-Hand Coordination** is the ability to guide hand movements with visual input—crucial for writing, drawing, tying shoelaces, and other practical life skills. In Waldorf classrooms, this capacity is nurtured through rich, hands-on activities: knitting, sewing, beeswax modeling, and form drawing. These tasks not only strengthen coordination but also weave will and attention together, forming the early seeds of concentration.
- **Ocular Motor Control** involves the harmonious functioning of the eye muscles. Children at this stage should be able to track, scan, adjust focus from near to far, and converge on a point of interest. This is essential for classroom activities like copying from a chalkboard or reading across a page. Difficulties in ocular motor control can cause fatigue, frustration, and disorganization in academic tasks.

- **Postural Adjustment** refers to the body's ability to stay upright and balanced in changing environments. It is a subtle but vital skill, enabling the child to remain stable even when shifting weight, navigating uneven terrain, or responding to sudden stimuli. This unconscious readiness supports attention and stillness—key capacities for school readiness.
- **Auditory Processing** In the classroom, children must be able to listen, process, and respond to verbal instruction. This involves auditory discrimination (hearing differences in sounds), auditory memory (remembering sequences of sounds), and auditory sequencing (understanding the order of information). In Waldorf pedagogy, oral storytelling, singing, rhythmic verses, and rich spoken language all help strengthen these capacities. Repetition and rhythm are also developmental supports for auditory processing.
- **Visual-Spatial Perception** is the ability to understand how objects relate to each other and to one's own body in space. It supports skills like forming letters and numbers, using positional language, and grasping math concepts, especially in geometry and spatial operations. In Waldorf education, this is nurtured through drawing, nature walks, handwork, and movement-based orientation activities. Research shows strong links between visual-spatial skills and math problem-solving, as children rely on spatial reasoning for place value, carrying in addition, and interpreting graphs or maps.

In the Classroom

We observe the maturation of this level as an increase in children's capacity for focused attention. They begin to sit longer in circle time, concentrate on a task without distraction, and persevere through more complex processes like felting or modeling. This is not a product of discipline, but a natural outcome of an integrated and grounded development.

Along with this comes an evolution in emotional and social development. Children begin to plan their play, articulate intentions, and collaborate with others. The play of children at this phase of maturation, typically around six years old, becomes richly imaginative and structured, with agreed-upon rules, characters, and outcomes. In Waldorf classrooms, this transformation is both observed

and gently guided, as the child moves from dreamy imitation to purposeful creativity.

Their artwork, too, reflects this shift. Crayon drawings and watercolor paintings begin to show twofold symmetry, defined figures, and thematic coherence. Rather than simply responding to color or sensation, the child begins to form an inner picture and work toward manifesting it externally—an early expression of independent thinking and self-awareness.

This phase of development signals the beginning of the child's readiness to meet the world differently. They are learning not only to balance and orient themselves physically, but also to begin relating to others, perceiving form and space, and intentionally expressing their inner world. These are the qualities that make the next tier of development possible: the birth of inner picturing, memory, and abstract thinking.

Cognitive Intellect and the Six/Seven-Year Change: The Birth of Conscious Learning

By the time a child reaches the upper tier of the Pyramid of Learning—typically around the age of six or seven—something profound begins to take place. This is not merely a continuation of earlier development; it is a threshold moment, a true transformation of consciousness.

In Waldorf pedagogy, this shift is often referred to as the six/seven-year change, or the birth of the etheric body—the formative life forces that had previously been devoted entirely to building the physical body now begin to liberate themselves for memory, imagination, and learning. This unfolding marks the beginning of true school readiness—not only in cognitive ability, but in emotional resilience and social flexibility.

In Closing

Reaching school readiness is not like suddenly flipping a light switch, but is the fruit of an integrated, sensory and movement-rich developmental journey. When the lower tiers of the Pyramid of Learning have been adequately nourished, the child arrives at the readiness for learning with confidence, curiosity, and care—ready not just to receive information, but to begin crafting their unique relationship to the world.

The Pyramid of Learning, viewed through the lens of Waldorf education, reveals a rich and layered

picture of child development. It affirms what Waldorf educators have long recognized: true learning arises not from the top down, but from the inside out and bottom up. Abstract thought is the culmination, not the starting point, of development. If earlier tiers are weak or skipped, higher-level skills rest on shaky ground.

As we work with the young child, our focus remains on supporting the foundational senses, protecting the forces of growth, and allowing development to unfold in its natural rhythm. When we honor this developmental sequence and provide the time and space for each stage to unfold organically, we help children build the strong foundation they need to thrive not just in school, but in life. ♦

Recommended Resources:

- Goddard Blythe, Sally. *The Well Balanced Child: Movement and Early Learning* (Hawthorn Press, 2008).
 - Helms, Connie. "Strengthening the Foundational Senses and the Sense of Touch." thewonderofchildhood.com/2011/08/strengthening-the-foundational-senses-and-the-sense-of-touch/
 - "How Do Visual-Spatial Skills Influence Math Skills?" yourtherapysource.com/blog1/2019/01/15/how-do-visual-spatial-skills-influence-math-skills-2/
 - Kranowitz, Carol Stock. *The Out-of-Sync Child: Recognizing and Coping with Sensory Processing Disorder* (Perigee, 2005).
- Perry, Bruce D., and Oprah Winfrey. *What Happened to You? Conversations on Trauma, Resilience, and Healing* (Flatiron Books, 2021).
- "The Sensory Pyramid of Learning." developlearngrow.com/the-pyramid-of-learning/

Rie Seo currently teaches kindergarten at *The Waldorf School of Garden City* and serves as an instructor at *Sunbridge Institute*. Previously, she led programs at the *New Amsterdam School* and a Waldorf-inspired Japanese Saturday program in Brooklyn, and founded outdoor parent/child classes in Queens. Originally from Japan and now based in New York, her background in the arts, cross-cultural experiences, and therapeutic training infuse her work with creativity, depth, and reverence for the unfolding of early childhood.