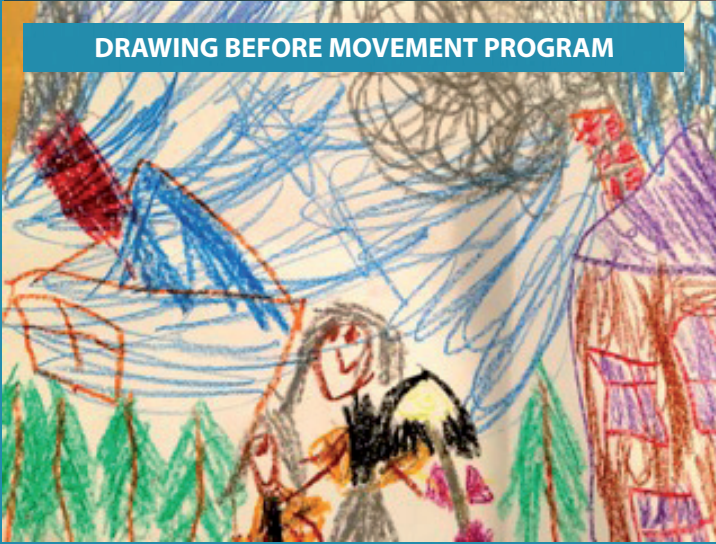


Innate Movements for Brain and Sensory Development by Sonia Story

DRAWING BEFORE MOVEMENT PROGRAM



AFTER THREE MONTHS IN MOVEMENT PROGRAM



BEFORE AND AFTER ^

Nina Gallwey, a remedial education teacher at Siskiyou School in Ashland, Oregon, offers this dramatic example of greater sensory maturity and coherence. Before participating in a movement program, the 8½-year-old student who drew these pictures struggled with selective mutism. With regular rhythmic movement, this student's strides amazed her speech therapist: she now reads aloud in class and joined her school's Drama Club.

An important part of Nina Gallwey's program is consistent use of innate rhythmic and reflex movements. After two years under Nina Gallwey's lead, every participant in her program for struggling students was reading at grade level.



SONIA STORY developed the Brain and Sensory Foundations curriculum and is a certified instructor of Rhythmic Movement Training™ (RMTi).

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Children are experiencing sensory-processing challenges at epidemic rates. Diagnoses with a sensory-processing component include autism, ADHD, developmental delay, developmental coordination disorder and learning difficulties.

What underlies a child's sensory-processing challenges? One key feature may be a brain and sensory-motor immaturity.^{1,2,3,4,5} When the central nervous system is not developed enough to comfortably handle sensory input, the brain and body cannot easily make coherent use of sensory input. Resulting symptoms—hypersensitivities, anxiety and challenges with communication, coordination and learning—range from mild to severe.⁶

How can we help children easily and reliably develop greater brain and sensory maturity? At any age, we can use innate movements—infant rhythmic and reflex movements—to build, reboot and optimize the brain, body and sensory systems.

Innate movements are special rhythmic and reflex movements that all healthy human infants perform in the womb and throughout infancy.

Movement is a fundamental fuel for brain growth: Human brains grow from movement. An innate neurodevelopmental movement template ensures a developing infant has the greatest chance for survival, proper growth, emotional development and learning. Along with developmental or “milestone” movements, these innate movements are an infant’s built-in exercise plan for developing balance, muscle tone, strength, coordination, sensory integration and brain growth.

Whether a child is a sensory seeker or sensory avoider, understanding how the sensory system develops through these innate movements gives us tools that offer simple yet profound help to overcome sensory distress. When an infant does not experience enough of these innate rhythmic and reflex movements, the brain, body and sensory-motor systems are left in an immature state. Brain pathways are underdeveloped, muscle tone is weak and vestibular and other sensory-

motor systems struggle to cope with sensory inputs that are painful or incoherent.

It is never too late to experience the benefits of neurodevelopmental movements: Children may miss the full amount of these special movements in infancy, but doing innate neurodevelopmental movements later on can still promote higher brain skills and sensory integration for children and adults, regardless of age.

How innate rhythmic movements work

The human brain is wired to respond to rhythm. We breathe rhythmically, our heartbeats are rhythmic, mature voluntary movement is rhythmic, we speak and learn with rhythmicity—even the brain’s neurons fire in rhythmic patterns called oscillations.

For most children, the innate rhythmic movements are soothing, enjoyable and very helpful for releasing stress and

anxiety. Though simple, the innate rhythmic movements provide stimulation for the growing tactile, proprioceptive and vestibular systems. The reflex and rhythmic movements also regulate and mature the brain stem and basal ganglia, which allows for focus, impulse control and the ability to be still and take in new learning with ease.

The infant rhythmic movements also mature the cerebellum. When mature the cerebellum produces smooth rhythmic movement and helps activate the speech and eye-tracking centers of the cortex. According to Harald Blomberg, MD, this accounts for why we often see children make great gains in speech and reading ability after doing the rhythmic movements consistently.

No more meltdowns!

As parents of sensitive children know, sensory-processing issues may be the source of great distress, anxiety and intense challenges in daily life. We yearn to help our children be comfortable and successful. Now there is a simple, natural process that can help us find out: “Who is my child without sensory distress?” Giving our children the innate reflexes and rhythmic movements they may have missed in infancy can be immensely transformative.

Most children love the movements and parents report great benefits for their children—better sleep, stronger emotional regulation, increased speech, easier learning, increased balance, less anxiety, greater stamina and more happiness.

Rhythmic stimulation may support healing of all kinds by promoting calm sensory processing^{7,8}, easier learning⁹ and release of stress, anxiety and trauma¹⁰. Occupational

therapists using infant rhythmic movements report that they are excellent for helping with sensory issues and many other challenges.

Learn to do these simple, innate movements and see the transformations for yourself. Live courses and online, video-based learning is available at

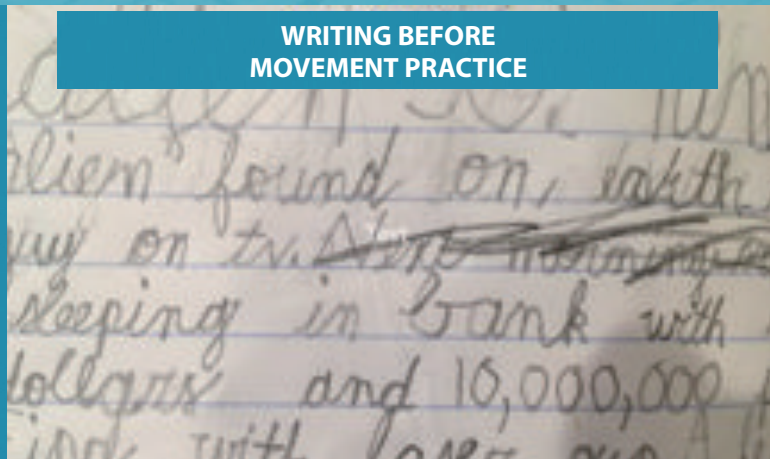
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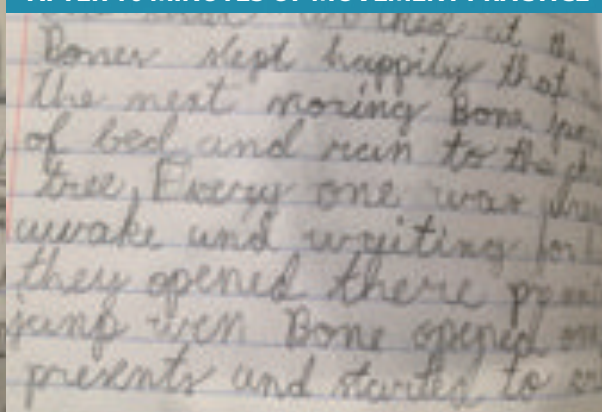
FAST RESULT ✎

In another sample from Nina Gallwey's classroom program, we observe the powerful, organizing effect on a 9-year-old student's handwriting after only minutes of rhythmic movement practice.

WRITING BEFORE MOVEMENT PRACTICE



AFTER 10 MINUTES OF MOVEMENT PRACTICE



—NOTES—

¹K. Rubia, “Neuro-anatomic evidence for the maturational delay hypothesis of ADHD,” *Proc Natl Acad Sci*, December 11, 2007, 104(50): 19663–64.

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³K. Staples and G. Reid, “Fundamental Movement Skills and Autism Spectrum Disorders,” *Journal of Autism and Developmental Disorders*, February 2010, 40 (2): 209–17.

⁴J. Flanagan, R. Landa, A. Bhat and M. Bauman, “Head Lag in Infants at Risk for Autism: A Preliminary Study,” *American Journal of Occupational Therapy*, 2012, 66 (5): 577–85.

⁵K. Fournier, C. Hass, S. Naik, H. Lodha and J. Caurauch, “Motor coordination in autism spectrum disorders: a synthesis and meta-analysis,” *Journal of Autism and Developmental Disorders*, 2010, 40: 1227–40.

⁶Sally Goddard-Blythe, *Attention, Balance, and Coordination: The ABC of Learning Success*, Wiley-Blackwell, 2009. *Reflexes, Learning and Behavior: A Window into the Child's Mind*, Fern Ridge Press, 2005. *The Well Balanced Child: Movement and Early Learning*, Hawthorn Press, 2004.

⁷Harald Blomberg, MD and Moira Dempsey, *Movements That Heal: Rhythmic Movement Training and Primitive Reflex Integration*. Sunnybank Hills, Qld.: Book Pal, 2011.

⁸Mary Gazca, “Rebooting Development with a Rhythmic Motor Intervention,” Masters Thesis, St. Catherine University Holistic Health Studies Program, May 2012.

⁹Carla Hannaford, *Awakening The Child Heart: Handbook for Global Parenting*, Jamila Nur Publishing, 2002, 96–104.

¹⁰Bruce D. Perry, “Applying Principles of Neurodevelopment to Clinical Work with Maltreated and Traumatized Children: The Neurosequential Treatment Model,” Chapter 3 from *Working With Traumatized Youth in Child Welfare*, edited by Nancy Boyd Webb, Guilford Press, NY, 2006.