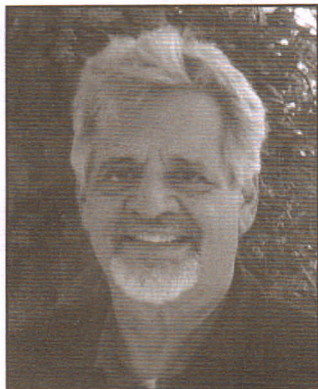


# RESEARCH NOW VALIDATES MOVEMENT-BASED LEARNING

Paul E. Dennison, California, U.S.A.

In 1975, after eight years in Los Angeles as a public school teacher of grades K-6 and six years as a reading specialist, I came to a fork in the path of my career in education. I could now become a school principal, or I could pursue a calling that seemed to me even more exciting and fulfilling: that of showing the academic breakthroughs made possible by the use of intentional movement.



Paul E. Dennison

In the thirty-five years since I made the choice to dedicate my life to teaching through movement, I have worked with thousands of challenged learners, created a language of movement with my wife and partner, Gail Dennison, written or coauthored more than fifteen books and manuals that have been translated into forty-some languages, and founded the Educational Kinesiology Foundation, with

representatives in more than twenty countries on six continents. I have realized my dream, and am now seeing education through movement as an expanding, worldwide reality.

For years, a growing body of research has related vestibular balance to school-readiness. Most recently (in 2005), researchers Stoodley, Fawcett, Nicolson, and Stein found an impaired balancing ability in dyslexic children. The One Leg Stand (Schrager, 2001) has been incorporated into a more extensive test battery to identify children who have, or are at risk of having, ADHD, dyslexia, and other specific learning disabilities. Balance beams and balance boards are being widely used by special education teachers, for the ability to keep one's balance is known to be highly correlated with brain integration and reading-readiness.

Kinesiologist and biomechanist Katy Bowman, developer of the Restorative Exercise Program, emphasizes that, to the extent that balance is lacking, the brain, visual system, and vestibular system have to work harder to compensate. In Edu-K we find that the integrity of the moving physical structure provides a context for the cognitive function necessary for focal attention and new learning.

Movement creates intelligence; the fields of neuroscience and neuroplasticity daily demonstrate that intention and purposeful movement creates those neuropathways necessary for all new learning to occur. Pathways are created during physical interaction with the environment, through play and the imagination, or through our expression of feelings and desires.

If learning is a search for structure, then structure provides a

context for meaning. Dynamic focus is what directs the learner to a balanced state of concentration. In the attentive state, she is able to see or create the meaning needed to engage in the task at hand, and able to access enough peripheral information to sustain and expand her attention over time.

In *A User's Guide to the Brain*, clinical professor of psychiatry at Harvard Medical School John Ratey, M.D., informs his readers that ". . . the brain's motor function affects so much more than just physical motion. It is crucial to all other brain functions—perception, attention, emotion—and so affects the highest cognitive processes of memory, thinking, and learning." Researchers such as Ratey also equate intelligence with the ability to read new situations, interpret feedback, and modify behavior in response to a fast-changing environment.

## LEARNING IS TASK-SPECIFIC

Parents and teachers, along with all who want to learn with more ease and pleasure, must concern themselves with the concepts of attention, concentration, and comprehension. An understanding of attention provides insight into all kinds of achievement and failure—whether in sports, business, academics, or general participation in life. In fact, it's the focusing system that can, on a continuum, inhibit action or generate the next step with boldness, fluidity, and ease.

Educators have long recognized the importance of attentional behavior; no true learning occurs without it. Not all teachers have realized that each learner adopts task-related attending strategies—each way of attending becoming a habit (and not always an effective one) for a given task.

For example, noticing how one reads provides an excellent mirror for noticing one's attentional behavior. The ways that people read and attend reveal the most ingrained human behavior patterns. Do you read without comprehending, saying the words without thinking through the intent of the language? Or, conversely, does your awareness of the "nuts and bolts" of the words that you're reading prevent you from going directly to the meaning of the material? Are you thinking creatively about what you read, planning ahead to what you'll write, say, or read next? These questions are directly concerned with attention.

True learning has a physical component and is often completed in a matter of minutes. The Brain Gym activities create this kind of readiness for learning. A skilled teacher offers a few minutes of activities, followed by a related lesson, creating a teachable moment. He recognizes the learner's "aha" experience and allows each learning unit to come to closure, neither belaboring the lesson nor jumping prematurely into a new topic, but allowing ample time for assimilation of the input.

*Paul E. Dennison, Ph.D., of Ventura, California, teaches internationally. He is a pioneer in the field of kinesiology and movement education and an authority on the breakthrough attainment of cognitive and academic skills. In the 1960s, Dr. Dennison began the seminal research into reading achievement and its relation to brain development that would form the basis for the Brain Gym work. ▲*