“We need to become more aware of the body’s role in learning as it is being dramatically clarified by scientific research. This book attempts to incorporate these new insights into a more valid and dynamic view of learning. In particular it seeks to illuminate the many ways that movement and emotions initiate and support mental processes.”

The science is in! Learning is not all in your head. To learn with ease the environment must be calm, supportive and stress free. Individuals need opportunities to move their bodies, to interact with others and to feel safe and cared for.

Nature schools are beginning to pop up everywhere and play, art, music and movement are being (re) introduced to education systems everywhere. We are really starting to fully understand why learning is not all in your head.

Carla Hannaford has written a very useful book for anyone wanting to enhance their learning or facilitate the learning of others. I think it’s a must read for any parent, especially if your child is having difficulties learning.

**Learning is Not All in Your Head**

“The mind, the unfathomable generator of reality, culture, history and all human potentiality, continues to intrigue and baffle us in our quest to understand ourselves. We have attempted to explain the mind from the glimpses and pieces we are able to put together as we focus our attention and research on the brain. But we have missed a most fundamental and mysterious aspect of the mind: learning, thought, creativity and intelligence are not processes of the brain alone, but of the whole body. Sensations, movements, emotions and brain functions are grounded in the body. The human qualities we associate with the mind can never exist separate from the body.”

We are not a brain and a body---we are a body! The body includes the brain which requires information from the heart, the skeletal muscles, the gut and other organs to function.

Individuals who think that in the future they will somehow be able to down load their brain into a robot and live forever intrigue me. The brain and the rest of the body are so intricately connected that they simply can’t exist without all the parts, with out the whole.

Learning is the same; it doesn’t just happen in the brain. Learning is a whole body phenomenon.
“The notion that intellectual activity can somehow exist apart from our bodies is deeply rooted in our culture”

Go on, try learning without a body! And let me know how you get on.

**Modern Culture and Movement**

“Though modern science is helping us to appreciate the role of the body and the need for movement and play in learning, modern life may be making it harder than ever before to benefit from this insight. Children tend to spend large amounts of time with TV, computers or video games, and –like their elders—develop lifestyles that preempt regular exercise, spontaneous, imaginative physical play, and intimate human connection. When we do move, it tends to be competitive or compulsive, risking early injuries.”

It’s funny eh! We know the importance of movement, connection, touch, play and creative endeavours but we somehow find ourselves spending large chunks of time engaging in activities we know to be detrimental to our health.

“Movement and play profoundly improve—not only learning—but creativity, stress management and health.”

Want to be more creative, less stressed and in better health? Then move! It is especially beneficial to move with others and in natural environments.

“It’s time to take a serious look at our own misconceptions about our bodies. In so doing we can free the body/mind system to reclaim its infinite potential for learning, thought and creativity”

**Neural Plasticity**

“Neural plasticity is an intrinsic, beneficial characteristic of the nervous system that gives us both the ability to learn, and the ability to adapt in response to damage—to relearn. From shortly after conception and throughout a lifetime, the nervous system is a dynamically changing, self-organizing system. It follows no single master plan and is never static. We develop our neural wiring in direct response to our life experiences. Ability and increased potential grow hand in hand. As we grow, as we move, as we learn, the cells of our nervous system connect in highly complex patterns of neural pathways. These patterns are organized and reorganized throughout life, allowing us greater ability to receive outside stimuli and perform the myriad jobs of a human life.”

“Your potential is unknowable!!” As my favorite psychologist Ellen J Langer says. You can always change the way you are, you can learn more, become more altruistic, get better at art, anything you want. You must
simply practice the new behaviors you want to exhibit. You can be anything you want and neural plasticity is the process that allows this to happen.

**Learning**

“The process of nerve cells connecting and networking is, in reality, learning and thought. As associations are made and information is synthesized, pathways become complex networks. These networks can be altered as the system continues to self-organize in ever more complex ways.”

It’s all about connection. When we learn our nerves make new connections with each other. The more we learn the more neural connections we develop. The more connections we have the more potential we have. Your potential is unknowable remember. And learning is the key to expanding yourself and your possibilities

“In a sense, we custom design our own nervous systems to meet the choice and challenges of our interests and livelihoods.”

I love this quote! How are you custom designing your nervous system? Maybe stop and think about that for a moment. What’s one thing you could do to custom design your nervous system today that would result in positive outcomes for your tomorrow?

“Real learning—the kind of learning that establishes meaningful connections for the learner—starts with movement in response to a stimulus, then creates a context or experience to understand the sensory input. Finally, learning is not complete until there is some output, some physical, personal expression of thought.”

That’s a big reason I do these notes. Yes I love to share these great ideas with you but I also want to learn these ideas for myself and creating a note after reading the book helps me to express my thoughts and hence learn in a more integrated way.

**Movement**

“The more closely we consider the elaborate interplay of brain and body, the more clearly one compelling theme emerges: movement is essential to learning and to the manifestation of life itself. Even in seeming stillness, our whole body teems with movement: the digestion of food; the expansion and contraction of the lungs and muscles: the beat of our hearts; nerve impulses; and blood moving rapidly through our body. Movement awakens and activates many of our mental capacities. Movement integrates and anchors new information and experience into our neural networks. And movement is vital to all the actions by which we embody and express our learning, our understanding and ourselves.”
Movement is life, if you are moving you are alive. It makes sense then that movement is a fundamental part of all aspects of our lives and a vital input for our cellular function. Movement of blood ensures feeding of our cells, no movement no cellular feeding. We all have parts of our bodies that we don’t move much, perhaps it’s our feet (always encased in shoes) or a part of our back that we once injured and now keep still for fear of hurting it again. These still areas are not receiving the benefits of blood flow so they are lacking nutrients and are probably dense with toxins that haven’t been removed due to poor blood and lymph flow. They are also inhibiting our learning. Our full sensory experience of ourselves will not be reached when we have parts that don’t move.

**Smart Moves**

‘Cross lateral movements, like a baby’s crawling activate both hemispheres in a balanced way. These activities work both sides of the body evenly and involve coordinated movements of both eyes, both ears, both hands and both feet as well as balanced core muscles. When both eyes, both ears, both hands and feet are being used equally, the corpus callosum orchestrating these processes between the two hemispheres becomes more fully developed. Because both hemispheres and all four lobes are activated, cognitive function is heightened and ease of learning increases.’

‘Brain Buttons’, ‘Cross Crawl’, ‘Hook Ups’ and ‘Thinking Caps’ are all smart moves that improve learning. Get the book to find the details on how to do them or find some resources on ‘Brain Gym©’ and start practicing.

These activities are great for everyone but really are necessary for kids who are having trouble learning; perhaps they missed the crawling pattern and bum shuffled instead. While many parents think this is cute, is it not good for the development of the brain. Get your kids ‘Cross Crawling’ and help them to re wire their brains so that learning is an un-stressful, enjoyable process.

**The Body and Emotion**

“All or our emotional/cognitive processing appears to be biochemical. How we feel about a situation triggers specific neurotransmitters. Objectively speaking, to the body/mind every experience is simply an event. The way we choose to perceive that event, colored by our emotions, determines our response to it and our potential for learning from it. At least 80% of what we perceive in our lives takes shape in our mind dependent on where we focus our attention. We can change our reality by changing what we focus on and pay attention to”

This is super cool. What are you paying attention to? Are you paying attention to your phone or the beautiful forest you are walking through, the
fact that you just lost your job or the fact that you have the ability to get another one, the thoughts in your head or the reality of what is happening around you? It’s vital to be able to pay attention to what you want when you want and to not be caught up in paying attention to what doesn’t deserve your attention. Are you aware of what you are choosing to pay attention to?

**Play**

“Rough and tumble play, especially during early adolescence when the child’s body is changing so radically, and they need that heavy touch more than ever, effectively reduces hyperactivity and the symptoms of ADHD”

“Interestingly, The National Education Association is discovering the importance of the arts, especially drama/theater and music in assuring greater success in math and reading as well as a decrease in behavior problems, improved attendance, and a greater focus and readiness to learn.”

“Students who participate in the arts outperform those who don’t on virtually every measure. Successful schools are integrating the arts into all aspects of the curriculum, thus providing more entry points for learning to those students who learn in a more gestalt context.”

Do I need to say anymore? Play. Kids do it all the time. It reduces the symptoms of ADHD! Kids who do art do better in maths and outperform kids who don’t on every measure. Play, art, music, drama are super important. Are you playing? It’s not just for kids. It’s for all of us.

**TV**

“The child’s ability to process is exhausted by over-stimulation in an attempt to follow what is happening on the TV screen. This causes the child’s eyes to go into ocular lock (staring) and dissociative hearing (no connection between words and pictures). The body goes into a stress mode that inhibits learning and memory and leaves the child irritable and fearful.”

Have you ever tried to communicate with a kid who is watching TV? You say their name very loudly and they just don’t hear you. You wave your hand in front of their face and they don’t notice. Well now you know why but did you know that this state of ocular lock is very stressful for your child. Turn the TV off! Or even better get rid of it (and the iPad and the iPhone etc.)

“Parents who have taken the TV out of the house find that, after the initial resistance, the children are much calmer, less fearful, more curious and imaginative; and over a short period of time learn to play and create again. These parents report they have more productive time to
themselves because the children are not needing their constant attention”

KILL YOUR TELEVISION! THE END.

**Stress and Learning**

“In light of the amazing resiliency of the human body/mind system, I propose that we hold off such a judgment until a person has completed their learning, which will take a lifetime. How can we label someone who is still in the process of becoming, a process we are all engaged in until we die? Having said that, I hasten to agree that there are people with specific learning difficulties. However, if we must label them, why not label them according to the underlying core problems rather than just the symptoms? I suggest the label SOSOH: Stressed Out, Survival-Orientated Humans.”

In the book there is a really cool diagram showing what inhibits learning. If you are interested in helping your kids or yourself then the book is worth the cost just for this diagram. It mentions unintegrated curriculums lacking music, art and daily movement, competition in education, TV, not enough water (which makes it hard for our body to send action potentials), poor nutrition and a lack of sensory stimulation including touch, movement and creative play.

I love the SOSOH label as well. Knowing that some one is ‘Stressed Out and Survival-Orientated' brings about more opportunity for empathy and understanding. It also helps us to help others. We all know that kindness and social connection are key for us to feel relaxed and that when we are stressed out everything becomes more difficult.

“What we have coined “the stress reaction” is actually our survival reaction to perceived threat of death that prepares the individual to mentally and physically take protective action. In times of real danger, these survival instincts are invaluable. They heighten our sensitivity to the environment, making us hyper vigilant. They intensify muscle strength, blood flow and oxygen distribution. But the stress/survival response does not make us smart, creative or rational. In fact these instinctive processes are largely carried out in the brain stem and sympathetic nervous system with little activation of the rational areas of the brain”

Cortisol and adrenaline commonly known as stress hormones mobilize our bodies to run away from danger or to stand and fight. This results in a lack of all the necessary variables and environmental factors required for learning. Kids who are stressed in a classroom for any reason are not going to learn. Many educational processes are known to be stress inducing. We must create better environments for our children to learn. We must do this in the classroom, and at home! Which begs the question; what can you do to
create a less stressed out environment at home?

**Learn, Learn, Learn**

“Movement, a natural process of life, is now understood to be essential to learning, creative thought, high level formal reasoning, and our ability to understand and act altruistically towards all those that share our world. *It is time to consciously bring integrative movement back into every aspect of our lives and realize, as I have, that something this simple and natural can be the source of miracles*”

How can you bring more movement into the lives of those you love? I love to take my nieces and nephews on adventures and they love it too. We simply go to natural spaces and see what there is to discover. What can you discover today by making more of an effort to move, move, move!

**About the Author of ‘Smart Moves’**

**Carla Hannaford, Ph. D.**

“Is a biologist, author, educator with more than forty years teaching experience, including two years teaching high school, twenty plus years as a professor of biology, four years as a counselor for elementary and intermediate school children with learning difficulties and over twenty years as an international consultant to more than forty-five countries, doing workshops and keynote presentations.

She was selected as a guest educator with the AHP- Soviet Project in 1988, has been recognized by Who's Who in American Education, has received awards from the University of Hawaii and the American Association for the Advancement of Science, has in-serviced schools throughout the U.S. and in 2006 was a distinguished lecturer for the National Association for Elementary School Principals.” From [www.carlahannaford.com](http://www.carlahannaford.com) check out her website to find out more.

**About the Author of this Move Note**

**Hazel Boot**

Hazel has a degree in Exercise and Sports Science. She is also an Anatomy Trains Structural Integrator and a Restorative Exercise Specialist. She works with clients to improve movement and reduce pain. She loves reading and geeking out on movement books. She writes notes on the books she loves to help others learn faster.

Find out more at [www.mindinmovement.co.nz](http://www.mindinmovement.co.nz)

I hope you enjoyed the content of this note but please remember that it is not medical advice and should not be used as such.