6840 Seaview Road, Sechelt, BC V0N 3A4
www.zonein.ca

The *Real* Brain Drain

The advent of technology has caused profound changes in children's development and their ability to learn. Delays in printing, reading and a decrease in the ability to pay attention are increasing at alarming rates. Attachment and developmental disorders seem to be today's norm. As children spend more and more time *connecting* with technology, relationships are *disconnecting*, at a very rapid pace. Canadian Statistics report children watch on average four hours of TV and videogames per day, and parents spend on average 3.5 minutes per week in meaningful conversation with their children. By the time children graduate from high school, they will have spent more time in front of a TV than at school. Is virtual reality now home and teacher to our children? By allowing our children to watch this much TV, are we literally draining the life force from of our children?

Parenting and teaching styles of the past no longer seem to work for today's child, causing frustration and apparent resignation of teachers and parents. While we know that watching TV results in obesity, aggression, addictions and detachment, little has been done at schools or in the home to address this growing concern. Dr. Susan R. Johnson, Assistant Clinical Professor of Pediatrics at University of Southern California, describes how children's developing nervous systems are adversely affected by watching TV and playing videogames. Dr. Johnson in her article *Strangers in Our Homes: TV and Our Children's Minds* states that "Watching TV has been characterized as multi-level sensory deprivation that may be stunting the growth of our children's brains. Brain size has been shown to decrease 20-30% if a child is not touched, played with or talked to." Technology is now the teacher of our children; virtual reality is now our children's home. Dr. Johnson goes on to states that watching TV weakens the eye muscles necessary for reading.

Teaching programs at universities no longer instruct teachers in printing acquisition skills. Dr. Marvin Simner, Psychologist and Professor at University of Western Ontario, and author of *Promoting Skilled Handwriting*, states "Handwriting is an essential skill, despite modern technology. People present themselves to the world through their handwriting, and are inevitably judged by it." Dr. Simner goes on to say that children who experience difficulty printing, are likely to be delayed in spelling and reading as well. While newer teaching styles appear to have a greater emphasis on analytical thinking, creative writing, and communication skills, printing efficiently will always be necessary to accomplish higher level thinking and learning. Dr. Jan Hasbrouck, PhD., Educational Consultant with Read Naturally, states "I cannot imagine a world in which printing won't be a part of what we do. There is still a need for printing, so the logical conclusion is that we should TEACH it"!

If we don't change something quick, we risk losing what we all live for, human connection. We also risk losing the functional ability to relate in a meaningful way to our children, teachers and families, an essential skill for living and learning. In order to save our children, we need to go back to the basics of our nature. For generations, human beings have engaged in heavy work, and sensory stimulation was nature-based and calming. We moved to survive; chopping wood, hauling water, plowing fields...listening, looking and smelling nature. Advances in technology and transportation have resulted in a physically sedentary human body that is bombarded with chaotic and complex sensory stimulation. While TV and computers may be compelling and interesting, burying our heads in technology is causing

sensory deprivation and a "disconnect" from our worlds. Dr. Gabor Mate, M.D. author of *Scattered Minds, A New Look at the Origins and Healing of Attention Deficit Disorder,* brings to light the importance of quality of "attunement" between parents and children and states, "The letters ADD may equally stand for Attunement Deficit Disorder." Dr. Mate points out that "happy interactions" between parent and child generate motivation and arousal by activating cells in the midbrain that produce endorphins, and activating cells that trigger the release of dopamine. Dr. Mate goes on to say "A relative scarcity of dopamine receptors is thought to be one of the major physiological dimensions of ADD." How well have we evolved to accommodate to these changes? Human evolution takes time, lots of time. Have we adapted as a species to accommodate ~~to~~ this sedentary yet frenzied existence? Are we pushing evolution? What will be the consequences for our children if we continue?

Although the answers to these questions are largely speculative, Cris Rowan, a Paediatric Occupational Therapist, believes we are already seeing results of sedentary lives and high levels of chaotic sensory input levels in our children - and they aren't adapting as well as we would hope. Cris observes that 30% of primary classroom children have attention problems, with energy levels ranging from sleepy and lethargic to charged and wired, while 20% have printing delays, primarily in the areas of planning movement. Changes to home and school settings have contributed to these delays. Continued budget cutbacks have resulted in overcrowded classrooms with subsequent "caged animal" symptoms in children (anger, anxiety, chewing, and depression). Sedentary home lifestyles, as well as decreased school gym, supervised recess and organized sports, have contributed to observed delays in sensory and motor development. Consequently, these delays have an effect not only on children's ability to print and read, but also impact their energy states, creating either hypo- or hyperactive children with huge attention difficulties.

So how do we learn, and how can we improve attention? We take information in through our sensory channels, we make "sense" of that information, and we produce an output – which could be how we behave, feel, move, and learn. The principles of Sensory Integration Theory, and Cris Rowan's Body Energy Model, posit that sensory input is energy, and can either charge, deplete or ground body energy. Movement, in the form of heavy work, is an energy outlet. In energy terms, "what goes in, must come out"...because energy is neither created nor destroyed, only transferred. When sensory input is balanced with movement output, the energy body is at its optimal state for learning.

As a society of parents, teachers and professionals, we need to work together to address how we can assist children to balance sensory stimulation with heavy work, to increase attention and reduce sensory overload (fright, flight, fight). For example, at home, a parent might allow one hour of "box time" (TV, video game, computer) for one hour of heavy work (bike up hill, haul wood, dig in garden). Schools could work toward increasing classroom-based resistive type movement through desk isometrics (hand push/pull), or through recess/gym activities (tug of war, climbing ropes). Schools could also reduce sensory stimulation by decreasing classroom visual and auditory "clutter", creating sensory hideouts, as well as could improve children's ability to attend by utilizing sensory tools and techniques for optimizing energy states.

So while the pace of our society may not allow us to stop pushing evolution, we must start listening to our bodies, if we want to successfully accommodate to recent advances in technology and transportation. We need to intersperse our daily lives with increased heavy work and need to moderate daily amounts of sensory stimulation to get back on the natural evolutionary track. Increasing necessary touch and movement sensation can be achieved by daily hugs, playful wrestling, nature games and by quite simply "reattaching" to our children! Now is the time to plant the seed for children to learn in a new and conscious way. Teaching children to be aware of their bodies, so they know who they are, creates a strong and healthy foundation for learning. Using their energy in positive and productive ways, children learn to create balance and wholeness of body, mind and spirit.

Biography

Cris Rowan has been an Occupational Therapist for 20 years, working in schools for the past 8 years. Cris has recently developed two new educational programs, Zone'in and Move'in, for use in schools and at home. Zone'in is derived from Sensory Integration theory, and helps children get their energy *Zone'in to Learn.* Move'in is based on Fine Motor Development theory and is designed to help children print and read by taking them on a *Printing Adventure.* You can learn more about these programs at www.zonein.ca, or email Cris at info@zonein.ca.

The Zone'in Mantra

Children are the future of our planet. Through modern technology, we have unconsciously created a "virtual reality" for our children to call home, a reality devoid of connection and human interaction. TV's, videogames and computers are now the teachers of our children, not parents. The result has been an alarming increase in attachment and developmental disorders.

Now is the time to plant the seed for children to learn in a new and conscious way. Teaching children to bring awareness to themselves, so they know who they are, creates a strong healthy foundation for learning. Using their energy in positive productive ways, children learn to create balance and wholeness of body, mind and spirit.

So Tune Into the Zone and Get Move'in.