

## Short Commentary

# Is Our Educational System Contributing to Attentional and Learning Difficulties in Our Children?

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I have great concerns about pushing children to read and write when they are in preschool or kindergarten. Developmentally and neurologically it doesn't make sense. There is a developmental progression of sensory-motor skills that a young child needs to master in the first 7 to 9 years of life, before reading and writing can properly develop. Despite what we think, learning is not "All from our head". It is the movements of our body, in utero through infancy and childhood, and even into adulthood, that form the neural pathways in our brain, that we later use to read, write, spell, and do mathematics. If we push reading too early, then children can only learn to read by sight recognition (i.e. sight memory), using the frontal area of their right brain. Yet, true reading is phonetic-based reading, a left-sided brain activity that allows children to simultaneously create inner pictures and scenes while sounding-out the words.

Over the past 30 years of practicing as a holistic, behavioral and developmental pediatrician, I have seen countless numbers of young children in my practice, diagnosed with ADHD and "Learning Disabilities", who miraculously improve when they are taken out of an "Academic" preschool or kindergarten and placed in a developmental preschool or kindergarten, that emphasizes movement and creative, imaginary play. I have also watched attention problems and learning challenges in older children and teenagers completely resolve, when reading is moved from the right side of their brain (i.e. sight reading) to the left side of their brain (i.e. phonetic-based reading).

Children, who are ready to phonetically read, will have fully integrated their vestibular-balance, proprioceptive, and bilateral integration pathways. They will have resolved any cranial compressions from their birth, and therefore be able to easily converge

with their eyes and effortlessly and smoothly track with their eyes (for at least 90 seconds). They also will have integrated their early primitive reflexes, and therefore they won't show tongue movements while writing (i.e. the Palmar reflex) or "Startle" when they catch a ball (i.e. Moro reflex). These children, who are ready to phonetically read, will be able to focus, pay attention, listen, and sit still in a chair for at least 20 minutes (Without needing to wiggle, sit on their feet, or wrap their legs and feet around their chair legs). They also will be able to balance on each foot for 8 to 10 seconds, in stillness (Without knees touching), eyes open and closed, while engaged in a mental task (i.e. counting or spelling their name backwards).

Children, who are ready to phonetically read, will be able to accurately reproduce, using a pencil and a piece of paper letters and numbers that are firmly drawn on each side of their back. When they can do this task, then they will be able to visually imprint the correct orientations and shapes of numbers and letters, and this means they won't show letter and number reversals when writing. In addition, children, who are getting ready to phonetically read (And also easily write in cursive), will be able to do the cross-lateral skipping pattern (Swinging opposite arm and leg) and jump rope effortlessly by themselves (with two jumps for every single swing of their rope, both forwards and backwards). They will also unconsciously cross-over the mid-line of their body, with their dominant hand, when picking-up an object on the opposite side of their body. Overflow finger movements will have also disappeared (I.e. integration of their vertical midline), and their hands and arms will no longer mimic the movements of their feet and legs (I.e. integration of their horizontal midline). Finally, children, who are ready to phonetically read (i.e. easily string sounds together), also will have phonemic awareness and be able to easily and rapidly discern the separate sounds within a word.

Children integrate their sensory-motor system and eye movements through whole body movements and not through flash cards or playing electronic games. Physical movements; such as skipping, hopping, rolling down hills, playing catch with a ball or bean bag, jumping rope, running, hiking, and playing circle games, as well as, doing lots of fine motor activities with their fingers; such as cutting with scissors, digging in the garden, kneading bread dough, pulling weeds, painting, beading, drawing, folding paper airplanes, sewing, and finger-knitting, build and strengthen their neural pathways. In contrast, watching television or videos and playing computer games are extremely poor sources of stimulation for their sensory-motor development and damage the eyes, as well as, slow down the integration of their sensory processing pathways by keeping children in a state of constant stress (i.e. activating their "Fight or Flight", Sympathetic Nervous System).

This ability to string sounds together, in order to phonetically, sound-out words, as well as the ability to discern the separate sounds within a word (i.e. Phonemic Awareness), has been shown to occur in the left parietal area of the brain. Developmentally, the left parietal area of the brain does not usually start to develop in girls for phonetic reading until 6 1/2 to 8 years of age, while in boys, phonetic-based reading may not start to develop until 7 1/2 to 9 years of age and sometimes even later, for girls and boys, if there are unresolved cranial compressions from birth or if the child has a very dominant right hemisphere. When we teach children to read and write too early, such as in preschool and kindergarten and even sometimes in the first grade, we stress their mind and their body and force them to use the right side of their brain to read by sight, because the left side of their brain has not yet developed to read phonetically. The right side of the brain is thought to be more spatial, artistic, and intuitive in function, and can be used by children to sight read as young as 3 1/2 to 4 years of age. Therefore, when reading is taught to very young children, they have to sight read so they learn to just look at the first and last letters of a word and the word's overall length and shape, and then make a guess at the word's identity.

It is important to note, that some children that learn to read mostly by sight can start switching their reading from right brain, sight reading, to left brain, phonetic-based reading, as they get older. Although, many other children stay stuck in the right side of their brain for reading and remain fluent sight-readers. These older children that fluently sight-reader may be able to slowly sound-out a word, phonetically, especially if they have never seen the word before. Yet, when they fluently read, they read predominantly by spatial recognition (i.e. Sight Memory). Because inner-picturing seems to occur in the same right, brain area as the sight recognition for words, sight-readers create very few inner, imaginative pictures and scenes while reading, these sight-readers can read a book

one day and completely forget what the book is about the next day. For this reason, they have difficulties comprehending the details of what they have read, unless they actually memorize individual sentences or simply make-up their own details. This is why sight-readers prefer reading comic books or graphic novels, because these books have lots of pictures. Fluent sight-readers also struggle to understand math word problems and comprehend science problems, because they cannot form a clear picture in their mind of what is happening while reading the questions or materials.

Children that predominately sight read, also struggle with writing, because they have challenges with grammar, spelling (Unless they have a strong visual sense that tells them a word looks funny), capitalization, and punctuation. Because they do not create their own inner-movie while reading a book, they often do not have a lasting memory of the book, and therefore they struggle to write a book report. Sometimes the only way they can write a book report is to plagiarize (i.e. Just copy the exact sentences they read). Finally, sight-readers usually have challenges reading out-loud, and tend to read with a monotone, because they are not picturing scenes while they read, and therefore their reading does not make any sense to them. In addition to pushing children to read by sight, especially in preschool and kindergarten, I wonder if our current

epidemic of attention and learning problems is also due to our "American" diet (High in sugar, low in omega-3-fatty acids, and loaded with partially hydrogenated fats and oils) as well as watching too much TV, playing too many video games, spending too much time in front of a computer screen, and spending too little time out in nature (i.e. "The Nature Deficit Disorder"). To promote neurological development, we need to surround the young child with what I call the "Buddha" state. This is regulated by the portion of the autonomic nervous system, referred to as the parasympathetic, and it is supported by; adequate sleep, predictable rhythms and routine, wholesome nutrition, warmth, harmonious, noncompetitive, rhythmic movements, and most importantly, unconditional love. Children's brains develop and integrate when they are in the "Buddha" state. Their brains can't fully integrate or develop when they are in a state of stress or in survival mode, i.e. "Fight or Flight".

Therefore, I support preschools and kindergartens that emphasize healthy movements, promote daily living skills (e.g. sweeping, stirring) as well as encourage creative, imaginative play. If preschools and kindergartens, and the governmental laws that set the standards for education, can support these healthy movement and play activities and if they can stop trying to teach our very young children to read and write, then I believe we will start seeing healthier 8 and 9-year old's who can listen, focus, sit still, write, read, pay attention, and learn with ease.