

## Teaching our Children to Read, Write and Spell, Part II

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**Question: If I am understanding what you wrote in Part I, children that are pre-school age or in kindergarten should not be pushed to write, read or spell because it might create learning disabilities in the future?**

**Answer:** Yes, this is true. Most young children, less than 7 years of age, have not finished developing their neurological pathways for writing, reading and spelling. First, children need to have fully developed their proprioceptive system so they can visualize and imprint in their memory the exact shapes of the letters and numbers they see.

Next, in order to read with comprehension and spell, children need to have developed their right brain for visual recognition of small words (ex. if, the, is, are, were, at etc.) and their left brain for phonetics, the ability to match a letter or letters to particular sounds. In addition, these children also need to have developed their bridge pathway or corpus callosum for simultaneous communication between the right and left sides or hemispheres of their brain. When all of these pathways for reading are developed, a children will be able to instantaneously recognize small words by sight using their right brain, sound out larger words phonetically using their left brain and create imaginative pictures for the words they are sounding out, another activity of the right brain. When these reading pathways are fully developed, these children will be able to read fluently, make imaginative pictures from the words and sentences they are reading, comprehend what they are reading, and have a visual memory that enables them to spell more easily.

Now if young children especially 4, 5 and 6 years of age are pushed to read or spell, they can only do this activity by using their right brain since the left brain and bilateral integration of their cerebral hemispheres have not fully developed. These children will try to read all words by sight memory. They will look at the first and last letters of a word and make a guess. A word like stop could be read as stamp, stump, or step. The right brain is working so hard trying to visually figure out the shape of each word, both large and small, that it is no longer available for creating internal pictures of the words.

These children still may read fluently, but they won't be able to sound out words, spell or have lasting comprehension. The right brain reading pathway becomes over-worked and the children will end up being just sight readers with poor spelling and poor comprehension. Later on, these children often get labeled as having non-verbal learning disabilities since they have bright minds but aren't performing in reading, spelling, and also math (especially word problems that rely on children's internal picture-making capacities to solve the problem).

Another area of difficulty is writing. Often children's hands do not functionally separate from each other until after ages 6 or 7. Prior to this age, the movements made by fingers in one hand are mirrored by movements of the same fingers on the opposite hand. This makes writing very difficult for young children. In addition, printing is an activity involving the left brain while cursive writing, that is flowing and not mechanical, requires both the development of the right and left brain as well as bilateral integration, the connection between the two hemispheres.

**Question: What about older children in 2nd, 3rd, 4th, 5th and 6th grades who still seem to be reading mostly by sight memory, can't sound out words easily, have difficulty spelling, and have trouble imagining in their mind the story they are reading? What is going on with these children?**

**Answer:** First I would check to see if bilateral integration of the right and left sides of the brain has developed. If children can do the cross-lateral skip with opposite arm and leg extending at the same time and their skipping motion is flowing and not mechanical, then bilateral integration has developed. If this pathway has not developed, then Biodynamic Cranial Osteopathy treatments followed by Therapeutic Eurythmy movement therapy, Parelli horseback riding lessons, Extra Lesson work, or sensory integration movement therapies (like HANDLE, Brain Gym, or Bal-a-vis-x) will be needed to help this pathway fully form. Often the development of the proprioceptive system (sense of the body in space), vestibular system (muscle tone, balance, speech articulation, eye tracking, and convergence) as well as bilateral integration of the right and left cerebral hemispheres are compromised or blocked when children experience a c-section birth, suction forceps delivery, pitocin to stimulate labor, prolonged labor, or a very fast delivery.

Once these neurological pathways are “opened” and developed, children in 1st, 2nd and 3rd grades may spontaneously start to read phonetically, notice how words are spelled, and create imaginative pictures in their minds from the words they are reading in a story or book. Once children can do the cross lateral skip with opposite arm and leg, cursive writing will become much easier and more flowing. Incidentally, form drawing and practicing cursive writing help develop bilateral integration of the cerebral hemispheres, and therefore serve to strengthen the reading pathways.

**Question: What about children in 4th, 5th, 6th and even children in the older grades who are still reading mostly by sight? They usually figure out a word by guessing and can only slowly sound out some words phonetically? They still may have difficulty with spelling and do not have much comprehension or internal picture making capacities when reading stories? What is going on in this situation?**

**Answer:** Sometimes when children are asked to read and spell at an early age or their pathways for reading are blocked, the right brain was the only hemisphere available for reading. Therefore, these children learn to read every word by sight memory. Later on (several years later) their left brain finally may have developed for reading, but they still don't use the left brain as their primary method for reading. Instead, these children still look at words using their right brain and try to recognize the words by the overall shape of the word and the first and last letters of each word. If they can't figure out what the word is by sight, they switch over to using their left brain and try to sound out the word phonetically. As long as children mostly are using their right brain to recognize words by sight memory, their right brain is not free for internal picture making. In addition, these children will have tremendous problems with spelling since their right brain doesn't pay attention to the arrangement of letters within a word. Remember in “true reading”, the right brain is used to recognize only about 500 small words by sight, while all the other thousands of words are decoded by the left brain using phonetics (sounding out words by matching sounds to letters) therefore freeing the right brain to simultaneously provide an imaginative picture of the word that the left brain has sounded out.

In these older children whose proprioceptive and bilateral integration pathways have finally developed but are not being used, I will recommend tutoring that emphasizes phonetics, matching sounds to letters and sounding out words. It is most beneficial if this tutoring is accompanied by movement games such as

playing catch or spelling words forwards and backwards while walking on a balance beam. Teaching children the long and short sounds of all the vowels and the rules of spelling now makes sense and stimulates the reading area in the left hemisphere of the brain. For example, one rule of spelling that stimulates the left brain would be to have children look at words containing two vowels in a sequence and teach them that the first vowel is the one that says its name while the other vowel is silent (ex. oa in boat, ea in meat, or the ea in bead). Another spelling rule that exercises the left brain would be to have children note the single vowel in the middle of a word and teach them that vowels use their long sound in words that end with “e” such as in the words plane, time, or stone. If children are pushed to learn phonetics before bilateral integration and the left brain has fully developed, they will still struggle with reading and spelling. In this case parents will spend thousands and thousands of dollars for intensive hours of tutoring every day for years that won’t be very effective. Children will become very frustrated and learn to hate reading. When bilateral integration has developed, then tutoring is fun and easy and only requires 1 to 2 hours/ week for the next 1 to 2 years as children learn the sounds of all the letters, the rules of spelling, and start picturing words.

**Question: How does one know what movement therapy or tutor would be the best for a particular child?**

**Answer:** The most important thing to look for is a movement therapist, and/or tutor who is fully present when working with your child. The child needs to love the therapist or tutor, and the therapist or tutor needs to love their job and love your child. This is not a sentimental love, but an unconditional love.