

The Brain and the Senses

By Lisa Harp

Did you know that the brain can be exercised to work more efficiently? There are two hemispheres of the brain - the left and the right. For learning to take place efficiently, there needs to be a balance between the left and right hemispheres of the brain. The right brain dominant student has a very difficult time in school, because schools teach in a left brain dominant manner.

A right brain dominant student learns by seeing the whole of something, through color and pictures, is emotional and daydreams. The left brain dominant student learns in a linear, logical fashion, and is good at math and phonics. Is this a death sentence for the right brain dominant student? Certainly not! The brain can be exercised to access the left hemisphere as well as the right, with only one 15 minute session once a week.

And the brain takes in information from the eyes and the ears. 75 to 90% of what is taken in is by sight. Did you know that there are muscles in your eyes? Sometimes the muscles are weak and the balance is off. This makes school work difficult since words and letters may be wiggling or moving. Sometimes an eye will actually shut down and go black. This gives the student a very distorted view of the world, and the eye will do this off and on throughout the day with the student having no control over it.

Often, the eyes have a difficult time going from a far plane of vision to a close plane, such as copying from the board (far away) to a paper or workbook (close up). Sometimes both eyes don't work together as a team or may not move smoothly across a page (tracking). Also, both eyes must fuse an object into one shape. If the eyes don't fuse correctly, the student may have double vision or see halos around letters, words, or numbers. Clearly, many things can go wrong with the visual system, but with work and exercise, these problems can be corrected.

Hearing involves a lot more than acknowledging sounds and registering these sounds. Hearing is also a process, and it involves the ability to attend to various sounds, to remember them, to be aware of the direction from which the sound originates, to repeat the sound, to recall sounds, to be aware of sounds in the environment, to be aware of rhythmic patterns, to isolate a sound from a variety of different sounds, to distinguish a sound from background noises, to draw meaning from verbal stimuli, to fuse the sounds coming into two ears into one unified sound, and to identify a sound in the initial, middle, and ending position of a word.

Although the visual channel of learning is the primary source for older children

and adults, for early childhood, the auditory channel is the main mode of learning. If something goes wrong in this crucial learning stage, such as chronic ear infections, then the student may have auditory processing problems when older. The auditory modality is of great importance to the school environment, especially in reading, language development, comprehension, and communication. In school and in the world, a student must respond to auditory stimuli, organize them, and understand their meaning.

Auditory stimuli place the most significant demands on attention and focusing abilities, since they are temporally ordered. Students diagnosed with Attention Deficit Disorder show huge improvements with focusing abilities when auditory training is received. Some children can hear a pencil moving across a paper so intensely that they can't focus on the words the teacher is saying. Also, reading difficulties cannot be addressed until the auditory component is taken into consideration. Students must be able to correctly hear a sound before reading it or spelling it.

Problems in perceptual skills and eye/hand coordination are also increasing. In any given classroom across America, you will find up to 30% of the students who have problems writing, holding a pencil, cutting, and doing school work in general.

This is the bottom line. These kids have brains that think quickly. But, their hands just can't keep up with their brains. Their work is sloppy and difficult to read. Art projects are messy. Handwriting is illegible. These kids' grades are often poor because the teacher can't decipher the writing to determine the answers. They are often diagnosed with dysgraphia.

With the increased academic standards being imposed, teachers don't have time to teach handwriting. Also, children are being academically pushed at early ages, and their gross motor skills (large) are not being developed properly. Children must develop their large motor skills before their fine motor skills. If they don't, then problems can occur.

There are so many things that can go wrong when learning is at stake. But students can be taught to learn by increasing skills and by training the brain. With new neural pathways, students can succeed academically and in life.