Definition of Terms

The Extra Lesson ***Assessment*** looks at the sensory-motor development of the first seven years. By the age of seven, most children have attained milestones in spatial orientation, movement coordination and the ability to shift between 2-dimensional and 3-dimensional space instantaneously. These abilities, combined with healthy body geography and confirmed dominance/laterality are the results of the child's movement exploration in the first seven years. If successfully completed, these abilities should be available to the child without thought or effort. They are the fruits of the first seven years of life as well as the capacities that the teacher will need to draw on if the child is to learn successfully.

The ***Extra Lesson*** was developed over thirty years ago by a Waldorf educator from England named Audrey McAllen. It is a series of movement, drawing and painting exercises designed to recapitulate the first seven years and "re-educate" the movement system in a healthy way that will foster easier learning. The premise is that difficulties in reading, writing, and math could be due to inadequate development of spatial orientation, poor body geography and sensory integration difficulties. While the assessment is a sequence of exercises and drawings that help to determine if a child has missed a stage in the first seven years, the extra lesson work itself unfolds a program of specific movement exercises aimed at addressing the hindrances that were observed in the assessment. By overcoming obstacles in the child's structural system, s/he is able to learn with greater ease and confidence. In the process of identifying areas of need, recommendations may be made for other therapies such as craniosacral or chiropractic, sensory integration, occupational, physical or speech, optometric, educational as well as medical evaluations.

Early Movement Patterns: Also known as primitive reflexes, the early movement patterns help us acquire specific skills in a neurologically programmed and sequential way. Many of these early movements are designed by nature to assist us in the birth process and early survival. Once a skill is practiced and mastered, a more mature, learned pattern will take over. If, for a variety of reasons, the opportunity to fully experience these reflexes does not occur, one or more of the reflexes may be retained beyond the optimal time and may result in a structural weakness in the central nervous system as the next programmed reflex is unable to fully develop. Without complete development, the sensory processing ability needed for balance, coordination, gross motor skills, fine motor skills, vision, hearing, touch and emotions might be impaired. Learning then becomes frustrating rather than a joyful process. An example is when a child has not worked through reflexes which enable the body and head to be erect when sitting. This can affect reading, writing and other school tasks.

Body Geography: Body geography is our ability to recognize the different parts of our body and how they interrelate and move in space. This process begins at birth with the first sensation of touch and develops through movement exploration of the environment and playing games such as "This Little Piggy". These experiences build an internal "map" of the body within the child, which fosters a healthy sense of self. The child knows where her body parts are and can move them easily and purposefully.

Spatial Orientation: This is our ability to move in the directions of space: left/right, forward/back, above/below. The child needs to correctly perceive how he moves in space or else he will have difficulty with directionality and may bump into people or things in his environment. A lack of proper directionality may also manifest in a lack of understanding of prepositions, which are the words that guide us in space, (under, over, above, below, etc.). Good spatial orientation is a skill needed for writing and reading words on a printed page, where the process moves from left to right, top to bottom, front to back.

Vertical Midline Barrier: The vertical midline barrier is a protective barrier which prevents a child from using just one side of the body, for example, only using the right hand to reach for toys. It ensures that the child will use both hands equally in early development, thereby developing both sides of the brain. With this symmetrical use of the body, both left and right brain hemispheres are fully activated. When the child is about six or seven, this barrier should disappear as hand dominance becomes established. This is a critical time in brain growth as the two hemispheres begin to specialize: the left specializes in language and logic (linear thinking) while the right specializes in musical and spatial abilities and sees the "whole" picture (gestalt). When this happens, the child is ready for formal learning. Retention of the vertical midlines barrier after age seven can be cause for difficulty in reading, copying, and carrying or borrowing in math since the eyes are unable to track accurately across the page (which requires "crossing the midline").

Dominance: Dominance is the preference we have for using one side of the body over another in performing movements and receiving sense impressions. Ideally, dominance is fully on the right side of the body, meaning eye, ear, hand and foot. Only about 4% of the world's population is left-sided, but more frequently in today's society children have mixed dominance. While some children and adults can successfully cope with mixed dominance, experience shows that this is an important factor behind learning and behavior problems, memory retrieval tasks, and processing lag times. The complicated adjustments which the child has to make in relation to the sense impression he receives are often more than they can manage when intricate sense reactions are required in activities such as writing, reading and math. This can result in a lack of concentration, withdrawal symptoms, tension and fatigue, all of which affect learning. Certain exercises and daily activities can help to establish firmer dominance in cases where a child has not yet chosen a side or where dominance is mixed, thereby making learning easier.

Tactile Defensiveness: Our sense of touch is strongest in early childhood; it helps us to bond as well as to explore the environment. If a child has not had the experience of the tight squeeze in the birth canal due to a quick birth or caesarian, the deep level sensors in the skin have not received enough stimulation to fully engage the sense of touch. Tight swaddling of the newborn for several months can greatly mitigate this problem, but children who have not experienced this deep pressure in infancy are termed *tactile defensive* because they have difficulty filtering out essential from non-essential tactile

stimulation. In school, this type of child may find it irritating to sit in a chair, to be too close to other children, or to wear certain clothing. Learning is then compromised.

Vestibular Sense: Also known as the sense of balance, the vestibular sense is located in the labyrinth structure of the inner ear. This is the most unifying of all the sense receptors in the central nervous system. Through the vestibular sense we learn about movement and gravity and the three dimensions of space: *up/down, left/right, forward/back*. This sense also provides a great deal of harmonizing activity between the lower and higher levels of the brain; it processes input concerning vision, speech, language, hearing, muscle tone and non-verbal communication. When children swing, rock, spin and get their heads into an upside-down position, they are stimulating the vestibular sense and therefore helping to increase their alertness and to assimilate information. Educators who are aware of this can better understand a child's need to move rather than to always have to sit still.

Proprioceptive Sense: Also known as the sense of self-movement, this system relays information about muscle position or tension, as well as the activity of joints and equilibrium. It gives us a sense of where we are in space and is one of the body's most important ways of knowing. All of our muscles have proprioceptive receptors which sense the degree of stretch in the muscle. These stretch receptors let us constantly know everything about our physical position and provide the feedback necessary for us to move and maintain our balance. Intimately tied to the vestibular system, the proprioceptive system gives the feedback necessary to maintain optimal muscle contraction and relaxation for balance and "being centered". Providing "deep pressure" to a child who is restless and outwardly chaotic, will give input to his proprioceptive system (muscles and joints) and have an organizing and harmonizing effect.

Auditory and Visual Senses: The child's primary means of taking in impressions in the classroom is through these two sensory channels. Not only is the initial perception important, but also the processing of these impressions. Poor processing abilities can cause the child to feel overwhelmed and incapable of understanding what is going on in the classroom. This contributes to academic difficulties, as well as social frustrations. Healthy functioning of visual and auditory systems is dependent upon vestibular function.

Sensory Integration: Sensory integration means the organization of the senses for use. We receive sensory information from our environment all the time, giving us clues about our relationship to space and gravity and to what we see, hear, touch, etc. It is our ability to receive and process this information efficiently that effects how we learn. If we are unable to sort and use sensory information well, this may affect our ability to learn not only in school but in social situations and everyday life.

Sensory Integration Therapy: A sensory integration (SI) therapist conducts an assessment to determine what combination of sensory –motor experiences will help a child to get what s/he needs to process sensory input more easily. The clinic environment provides an array of movement opportunities and equipment to help facilitate motor

development and more organized behavior. As a child's skills become more integrated, such as learning to balance against gravity while receiving visual and auditory input at the same time, success in the classroom becomes easier and self-esteem increases.

Craniosacral Therapy: This therapy uses a gentle touch to correct imbalances or blockages in the craniosacral system; the membranes and cerebrospinal fluid that surrounds the brain and spinal cord. The area of focus on the body is mainly the skull or cranial bones, face, shoulders, feet and tailbone (sacrum) area. Craniosacral therapy is often recommended as a primary step after an Extra Lesson Assessment in order to correct imbalances and restrictions in the structural/nervous system and help the body receive the new movement patterns from the Extra Lesson. Many healthcare professionals including medical doctors, osteopaths, chiropractors and bodywork practitioners use this form of therapy because of its positive benefits. This therapy is useful in a variety of situations including learning challenges, emotional difficulties, and motor-coordination impairments. For children and teens, four visits or fewer is often enough to remove the restrictions; for adults it may be more.

Compiled by Beth Dowd

Sources: "Smart Moves" by Carla Hannaford
"Sensory Integration" by Jean Ayres
Joan Ingle, Educational Therapist, Extra Lesson Practitioner
Connie Helms, Extra Lesson Practitioner

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