The DIR®/Floortime™ Approach and Sensory Integration

> **All children have within them the potential to be great kids.**
>
> **It's our job to create a great world where this potential can flourish.**
>
> Stanley Greenspan, MD – Great Kids, 2007.

Dr. Anna Jean Ayres (1920–1989), often referred to as "A. Jean Ayres", was an occupational therapist and developmental psychologist known for her work in the area of sensory integration dysfunction, a term she coined in the 1960s to describe a theory used in occupational therapy. Dr. Stanley Greenspan (June 1, 1941 – April 27, 2010) was a clinical professor of Psychiatry, Behavioral Science, and Pediatrics at George Washington University Medical School and a practicing child psychiatrist. He was best known for developing the influential Floortime™ approach for treating children with autistic spectrum disorders. This Floortime™ approach is now a trademarked approach under the umbrella term of the DIR® (Developmental, Individual Differences, Relationship) Model.

The Developmental, Individual Difference, Relationship-based (DIR®) Model is a framework that helps clinicians, parents and educators conduct a comprehensive assessment and develop an intervention program tailored to the unique challenges and strengths of children with Autism Spectrum Disorders (ASD) and other developmental challenges. The objectives of the DIR® Model are to build healthy foundations for social, emotional, and intellectual capacities rather than focusing on skills and isolated behaviors.

Though Dr. Greenspan started developing his work more strongly about 10 years after Dr Ayres, they shared a common goal, even while never meeting in person. Both professionals were concerned with the fact that children had something to say about how they were feeling in their own bodies. The newer insights derived from their work is that the central nervous system has something to say about behavior, that behavior should not be taken at face value, and that there is more depth to behavior than what was observed on the surface.

Dr. Ayers own sessions were often observed to be quiet in verbal content from her, while spending much time observing the child and figuring out how she could gain improved patterns of movement by what the child is presenting. This quiet observation is very much like the "wait, watch, and wonder" DIR® approach. The importance of how the child is feeling and experiencing his / her environment was and still is the first order of business in both Sensory Integration work today as it is in DIR®/Floortime™ Intervention.

Sensory Integration has evolved in a dynamic process of understanding the foundations of central nervous system development and it's adaptation to the environment the child finds himself in. DIR®/Floortime™ has evolved in a dynamic process that includes this central nervous system adaptation in the very foundations of the developmental hierarchy of 6 functional emotional developmental levels. Once a therapist is involved in doing both Sensory Integration as well as DIR®/Floortime™ , it becomes difficult to draw exact lines of when Floortime™ begins and Sensory Integration ends.

The blend of the two interventions is very important for typical as well as atypically developing children. As the one intervention focuses on Sensory Integration and it's effect on behavior, the other simultaneously focuses on the emotional development and it's effect on behavior. In order to understand this better, let's take a brief journey through the 6 developmental levels and discuss the fit of Sensory Integration during these levels.

STAGE 1: SELF-REGULATION AND INTEREST IN THE WORLD

During this first stage of development it is all about how the baby adapts to his / her sensory world. The entire concept of sensory modulation, hyper vs. hypo-arousal is at work during this stage. Establishing the different cycles, sleep-wake etc. is at the order of the day. This theme is central to the work of a therapist intervening with sensory integration as it is central for the DIR® therapist to understand in order to understand the peculiarities of the presenting behavior. Both interventions will focus on what would be integral for this one body to come to the "just right place" in order to learn in a more calm and efficient way.

STAGE 2: INTIMACY, ENGAGEMENT, & FALLING IN LOVE

During this stage the DIR® therapist will be actively seeking the ability in the child to connect warmly, with affect to his / her caregiver and improve a sustaining ability to pay joint attention to a task. This ability to remain connected is very dependent on the child's ability to integrate all of his different senses. In order for the child to understand the non-verbal as well as verbal communication, he/she depends on the ability of his / her central nervous system to look and hear simultaneously, to move and see simultaneously and the list goes on. The central nervous system has to become organized in order for joint attention to the same task to be sustained.

STAGE 3: TWO-WAY COMMUNICATION

Now the DIR® therapist would be focusing on gaining an increased number of circles of communication. One circle would be the child initiating, the adult responding, and the child then responding back on the same topic. Eventually these circles of communication would run into having a continuous conversation. To be able to accomplish this, the child has to have some building block ability of motor planning. Praxis is the ability of the body to have an idea about a motor action, to initiate this idea, to sequence through it in organized steps, to complete the motor task in the same rhythmicity and timing as a peer, then give the body adequate feedback as to how the motor action went, so it could be repeated again. If the child is struggling with ideation and initiation in praxis, he / she might have great difficulty initiating these circles of communication. A child who is struggling with sequencing will have difficulty putting contingent circles together to create a

conversation. When the child struggles with rhythmicity and timing, they may have great difficulty building a fluid conversation as they have difficulty learning to wait and pace their conversation and may have impulsive habits such as interrupting the current speaker. And if the body is not given the correct pathway of feedback of how these utterances were made, such as in an under registering profile, we might get glimpses of words will long wait periods in-between before it is repeated. The very automaticity of a conversational pattern is dependent on praxis / motor planning.

STAGE 4: COMPLEX COMMUNICATION

At this stage we are expecting at least up to 15 circles of communication (working towards many more) though the fluidity may not be there. In play we are now moving into the realm of more pretend play that starts with playing out everyday experiences such as going to school, church, beach and gradually becomes more abstract to move into building stories that are of the child's own making. In order to accomplish this the child's motor planning ability has to strengthen even more as it also has to integrate with more advanced visual abstraction. A child has to be able to recognize that one object, such as a block, could represent a car in his / her imagination. This stage is very important for motor planning sequencing and language sequencing to become more integrated in order to have sufficient ability to use it together. The body map (body awareness) or child's physical image of their sense of self has to become quite integrated in order to participate in role play, to become someone else, to understand being in someone else's shoes.

STAGE 5:EMOTIONAL IDEAS

During this stage we expect the child to be able to deal with their emotional world, to understand different feelings and how they relate in their bodies, to deal with emotional upset and understand enough of their world to use symbols in their play. If we truly understand the first 4 levels and the high amount of integration it requires to get to this stage, we might look a little bit differently at behavior. Emotions are a frightening development in a child's life that is undergoing a typical trajectory. It is very frightening and fear provoking in a child who simply did not get the foundations "right" the first time. This level of work causes a therapist to take out old notes on play development, bring it in sync with the child's sensory profile, while at the same time having to assist the family with coping with the exploration of these emotions at home.

We can frequently work away many of the sensory integration needs and the child's behavior may look like we might be in for the quiet after the storm, only to suddenly enter this stage of development and all the sensory integration symptoms may come back in a vengeance. Families become frustrated as therapists try to grapple with "what now?". It simply means that this higher level of integration of emotions with all of the first 4 levels is causing stress in the child's system and the child is being triggered by past experiences due to how the body is experiencing the moment. This is so important for the sensory integration therapist to understand. The origin of these "same" behaviors is no longer a sensory integration issue as much as the trigger is now the emotional development.

STAGE 6: EMOTIONAL & LOGICAL THINKING

During this stage of work, the therapist is considering the child's ability to reason more logically, to sequence one solution to a problem, while also flexibly considering a plan B. This requires much of the building blocks of executive functioning. One particular component of executive functioning skill is active working memory. A central executive that is fed by two streams, a visual-spatial pathway and a phonological, auditory pathway controls active working memory. In order for multi tasking to occur, the central executive has to be enabled by both the visual and auditory pathways at the same timing in order to work effectively. Herein lies a conundrum if the child experiences a delay in either system. To understand that this level of work is highly integrated in nature is also to understand that the child has to accomplish much in order to be able to use judgment over behaviors.

Dan Siegel explains a hand model that is used frequently in explaining behavior in the brain. If you hold your arm in the air, while tucking your thumb under your four fingers, you can think of your wrist as the brainstem, while your folded fingers (towards the palm of your hand, over your thumb) could be seen as your cortex. The

distal two digits overlapping your thumb form your pre-frontal cortex. Your thumb is considered to be the amygdala and while all is calm you can access your pre-frontal cortex with good judgment. As soon as you become upset and you "flip your lid", your four fingers jump up, leaving you amygdala exposed. This cuts off the pathway to judgment in the prefrontal cortex and you are only able to "think" with your emotions". We need to really think about what we are asking a child, who is emotionally upset, to do. Sometimes it is more than we would even expect of ourselves. In both sensory integration as well as in the DIR® process we would both want to meet the child where he or she is at in that moment of time.

The above is but a brief overview of much complexity that this article cannot do justice to. The hope is that in reading this article the therapist would understand that what behavior the child provides cannot simply be only what we can observe visually. We have to be thinking of the multiple layers of development and what it is that a child has to conquer in order to survive in our product oriented world. Both DIR® and Sensory Integration are process oriented approaches, both are child led, and both consider underlying reasons for external behavior.

It is important that parents gain the hope they deserve in understanding their child's progress. As therapists, we can provide many answers, but we also should not be afraid to not know everything and rather encourage a team process with families to find the best way to deal with a particular situation.

The reader is strongly urged to read Dr. Greenspan and Dr. Wieder's books (The Child with Special Needs, Engaging Autism) to gain further understanding of this body of work. The author of this article also humbly suggests using her book (Our Greatest Allies – Maude Le Roux and Lauren O'Malley) as a reference for other professionals and families. The journey of Lauren with her child, Mattie, is potently strong for families that are encouraged in a similar journey. Both Sensory Processing as well as DIR®/Floortime™ is well described in easy read terms. This book is available on Amazon.uk.

Maude Le Roux, OTR/L, SIPT

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