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Climbing the symbolic ladder in the DIR model through floor time/interactive play

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ABSTRACT The developmental, individual-difference, relationship-based model (DIR), a theoretical and applied framework for comprehensive intervention, examines the functional developmental capacities of children in the context of their unique biologically based processing profile and their family relationships and interactive patterns. As a functional approach, it uses the complex interactions between biology and experience to understand behavior and articulates the developmental capacities that provide the foundation for higher order symbolic thinking and relating. During spontaneous 'floor time' play sessions, adults follow the child's lead utilizing affectively toned interactions through gestures and words to move the child up the symbolic ladder by first establishing a foundation of shared attention, engagement, simple and complex gestures, and problem solving to usher the child into the world of ideas and abstract thinking. This process is illustrated by a case example of a young boy on the autism spectrum interacting with his father during 'floor time' over a 3 year period.

KEYWORDS *affect; autistic spectrum disorders; DIR; floor time; symbolic play*

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Introduction

Play is the most important enterprise of childhood. It ushers the child into the world of symbolic thinking where symbols and images can represent reality. We have constructed a model of symbolic elaboration (the functional emotional developmental model) based on an integration of affect and cognitive theory (Greenspan, 1979; 1989; Greenspan and Shanker, 2003). By elevating feelings and impulses to the level of ideas expressed through gestures and words, ideas and feelings can be shared and expanded through symbolic play and conversation. The gestures encompass the affect cues that give meaning to the words, actions, use of figures and toys (i.e.

the tone of voice, facial expression or type of movement). These affect cues convey what is coming, what is safe, and what things mean, providing the support necessary for regulation and taking the risk to broaden feelings and ideas to climb the symbolic ladder. Because symbolic play provides the distance and safety from real life and the immediacy of needs, it offers practice to differentiate one's own and others' experience and feelings as well as to differentiate from the environment in order to prepare for abstract thinking.

Play is also the most important enterprise for children with special needs where uneven development related to sensory processing and regulatory challenges need not limit the potential and propensity to develop the capacities for a symbolic life. In children with autistic spectrum disorders, interactive play uniquely addresses the core deficits of relating and communicating as no other approach can. Interaction is the key to facilitating development, where long sequences of back and forth co-regulated affect cues help the child focus, initiate and elaborate ideas. As early as 18 months the absence of symbolic play has been identified as a critical indicator of high risk for autism (Baron-Cohen et al., 1992). Yet, while various intervention models include some form of play, symbolic processes are not given the centrality necessary to reach abstract levels even though no other activity encompasses the complexity and opportunity interactive play provides.

Symbolic process is central to the developmental, individual-difference, relationship-based model (DIR: Greenspan, 1992; Greenspan and Wieder, 1998; ICDL, 2000; Wieder and Greenspan, 2001). This is a theoretical and applied framework for intervention which articulates the developmental capacities that provide the foundation for higher order thinking and relating.

The DIR model examines the functional developmental capacities of children in the context of their unique biologically based processing profile and their family relationships and interactive patterns. Three components must be considered simultaneously in the DIR model. The 'D' represents the developmental capacities (i.e. functional milestones) that emerge during the child's early years including: shared attention and engagement, back and forth interactions, problem solving, creating play ideas and abstract thinking. Through interactions during play and conversations children expand and elaborate upon their ideas, thoughts and feelings as well as learn to empathize with others as they put themselves in someone else's shoes. The 'I' represents individual differences in sensory motor processing and regulation which need to be taken into account and treated to support development (e.g. auditory or visual spatial processing deficits). The 'R' represents the relationships and environment necessary to provide

the interactions through which the development of emotional, social and cognitive capacities are nurtured, practiced and enhanced.

In the DIR model affectively toned interactions between child and parent, teachers or peers, be they gestural or verbal, move the child up the symbolic ladder. A case example of one child on the autistic spectrum moving through the first six developmental stages within the 'D' component of the model will illustrate the range this concept embraces. This example will not describe the full range of comprehensive services the child received but focuses on 'floor time', the component that is spontaneous and led by the child, where the caregiver follows the child's lead and promotes the continuous flow of interactions utilizing affect cues that entice, challenge, soothe and encourage the child further. Floor time does not mean just following the child and commenting on what he or she is doing, but is the active process of interacting in a continuous and rapid back and forth manner at all the levels the child is capable of, from sensory-motor pre-verbal interactions, to problem solving, to symbolic play and abstract conversations. The purpose is to strengthen each of those functional developmental capacities which together form the foundation for higher order abilities. It is important to note that some children have language and some limited interests, but lack the interactive capacities for mutual attention, relationships, and the back and forth affect gesturing necessary to expand feelings and themes. These gaps derail development of symbolic and emotional abilities.

Key elements of 'floor time'

The key elements of 'floor time' are described at each developmental stage.

Stage 1: self-regulation and shared attention (interest in the world) This initial stage focuses on harnessing all senses and motor capacities, to help the child stay calm and regulated in order to draw him or her into shared attention. The adult involves the child in enjoyable interactions that include looking (look at and examine faces), hearing (focus on voices), touching (pleasurable tickles, stroking or sharing an object or a toy) and movement. Constructive and playfully obstructive strategies are used with affect cues to stretch the child's capacity.

Stage 2: engagement and relating This stage involves encouraging the child to engage with pleasure as seen when the child brightens, smiles, references (looks), moves, vocalizes or reaches. The idea is to encourage growth of intimacy and 'falling in love'. As the child develops, the relationship is deepened to include the full range of feelings such as assertiveness,

anger or sadness that can be incorporated into the quality and stability of the child's engagement (e.g. does he or she withdraw or become aimless under stress, does he/she stay connected when angry or scared?). Relationships are continually emphasized to develop a sense of security, intimacy, caring and empathy. Relationships also support the hard work needed to develop motor planning, language, and positive attitudes towards all new learning.

Stage 3: two-way intentional communication This stage involves following the child's lead and challenging him or her to communicate through exchanges of gestures and emotional signals about his or her affects (interests, needs or intentions). The adult is animated and shows affect through tone of voice and facial expressions. This begins with a dialogue without words through subtle facial expressions, a gleam in the eye, and other emotional signals or gestures, and progresses to a dialogue with problem solving words. Affect cues (signals) are used to woo and wait for the child's purposeful social gestures (facial expressions, making sounds, reaching, pointing, throwing, movement, etc.) to express desires, objections or other feelings. Reciprocity is established by challenging the child to do things to the adult, by helping the child achieve his or her goal and later build obstacles to add steps. A continuous flow is encouraged by opening and closing multiple circles of communication. A circle is *opened* when the child exhibits some interest or *initiates* a behavior – e.g. the child looks at a toy, and the parent or caregiver *follows the child's lead* by picking up the toy and showing it to the child. The child *closes* the circle by reaching for the toy, while *acknowledging* (looking, smiling at) the parent.

Stage 4: purposeful complex problem solving communication At this stage the adult and child work up to a continuous flow of 30 or more back and forth circles of communication – e.g. the child takes a parent by the hand, walks her to the door, points to indicate that he/she wants to go out, and perhaps vocalizes a sound or word to further signify intentions. The adult expands the conversation by asking where the child wants to go, what he/she needs, who else will come, what they will get, what else, how come, etc. These conversations negotiate the most important emotional needs of life (e.g. being close to others, exploring and being assertive, limiting aggression, negotiating safety, etc.).

Stage 5: creating and elaborating symbols (ideas) This stage encourages the child to relate to sensations, gestures and behaviors, to the world of ideas which can be shared in pretend play. The adult lets the child initiate the play idea and joins the child as a character through dramatization in

direct roles or using figures to elaborate themes and expand the range of emotions (closeness, assertiveness, fear, anger, jealousy, aggression, etc.) which the child can explore and express safely. When feelings and impulses are elevated to the level of ideas, they can be expressed through words – e.g. instead of hitting a friend, the child can say, 'I'm mad' without acting out. Play provides the distance from real life and immediacy of needs to differentiate self from others through empathic roles – e.g. the child pretends to be a mommy, comforting her frustrated baby who broke his toy. It is important to look out for polarizing or being dominated by one or another feeling state (aggression and impulsivity, needy or dependent behavior, fearful patterns, etc.). The adult engages the child in long conversations to communicate interests, feelings, desires and objections throughout the day.

Stage 6: building bridges between symbols (ideas) This stage involves challenging the child to connect his ideas together by seeking his opinion, enjoying his debates, and negotiating for things he wants using logical reasons. The adult promotes pretend play, words, and/or visual symbols to elaborate a partially planned pretend drama (theme or idea is identified in advance), or engage in logical conversation dealing with causal, spatial, and/or temporal relationships between themes. Recognizing when themes or ideas are fragmented, the child is encouraged to 'make sense', with a beginning, middle and end where elements in the drama logically fit together, motives are understood, and the child can put himself in someone else's shoes. The child is challenged to create connections between differentiated feeling states – e.g. 'I feel happy when you are proud of me!' Relationships (contingency) between feelings, thoughts and actions are identified. Differentiation of more subtle feelings states (e.g. lonely, sad, disappointed, annoyed, frustrated) are expanded. This capacity is essential for separating reality from fantasy, modulating impulses and mood, and learning how to concentrate and plan.

Case example of a child on the autism spectrum

The first stages of intervention

Joey was diagnosed on the autistic spectrum at 30 months of age. He was withdrawn and self-absorbed, spending his time pushing a car back and forth lying on the floor, examining it through his peripheral gaze, shuddering and quickly covering his ears as he heard unexpected sirens or cries. He did not respond to his name or appear to understand what was said to him, typically looking away. But he recognized a few songs, turned the

pages of books, and loved jumping. There were times he smiled as he enjoyed dancing and bouncing on the bed, but he did not point or wave, or come to his parents except to take their hands to get a cookie or toy car. At 2 he was still silent, with just a few guttural sounds. His parents decided not to wait any longer as they experienced their child slip away and sought evaluation. It took nearly 6 months to put a comprehensive program in place (ICDL, 2000).

The following sections describe the authors' interpretations of Joey's progress through a series of floor time interactions over 4 years of intensive intervention which included: (1) six daily floor time sessions, (2) four semi-structured and sensory-motor activities, (3) intensive speech and occupational therapies, (4) three to five playdates weekly, (5) inclusion in a preschool and (6) various music, gym, drama and sports activities.

> Joey and Dad are rolling on the floor engaged in gleeful rough house play as Joey bounces on his dad's tummy, waiting to be lifted up once more onto his dad's knees to 'fly into the sky'. He waits breathlessly anticipating his flight and bumpy landing, his hands trembling, but to no avail. Their gazes meet with joint excitement and Dad asks, ' Are you ready Joey? Ready for take-off sweetheart?', his voice wooing Joey into the next step which Joey must initiate if his intent is to keep flying, both patient and reassuring. Joey finally takes his dad by one hand and then the other. Pulling both towards him, he blurts out, 'Eh, eh!' With that the engine revs up as Dad stretches the moments of their shared gaze and joint attention until Joey tugs once more, their pleasure mounting as the plane soars into the 'bumpy skies'. Joey is now the captain, signaling his wish to go higher or faster as his dad waits for him to initiate the next move by gesture or vocalization until they reach their 'destination' designated by nearby photos of Nanny and Pop-Pop or Disney World towards which Joey first reaches and then points as his dad models pointing with an energetic, 'Over there or over here?'
>
> Sometimes the plane 'crashes' and needs to be repaired with Joey's hammer (fist), sometimes it needs to be refueled with kisses, and sometimes it stalls or gets lost before Joey arrives and he is met with tight squeezes and hugs. Their journeys stretch from moments to minutes as Dad encourages Joey to sustain a continuous flow of gestural interactions where Joey is in charge of each next move, solving every problem as it arises unpredictably, closing circle after circle of communication in a co-affect regulated state until they reach their destination.

On this joyful journey many goals are accomplished for this 30-month-old little boy diagnosed on the autistic spectrum only 6 months earlier. The most important was the deepening of Joey's relationship with his dad who acts as his 'toy' and makes playing with people more compelling then pushing his cars back and forth (which he relied on earlier because of poor

motor planning and sequencing) or spinning in his craving for movement (because of his under-reactive vestibular system). While Joey always enjoyed rough house play with his dad, it was Dad who always threw him around and did all the work for his passive low muscle tone little boy. Building on this one area where he could still reach the 'little boy he lost', Dad learned how to help Joey develop critical functional developmental capacities through play with his non-verbal pre-symbolic son.

Mutual attention and engagement were enhanced through affect cuing to get Joey to initiate what he wanted and communicate this to his dad, who wooed but waited for Joey to make the first move, knowing what Joey's intent or desire was. Their mutual pleasure deepened their relationship and affection, expressed in deliberate smiles, hugs and kisses. By waiting and being playfully obstructive, Dad was able to get Joey to elaborate on getting more of a ride and also to woo him into more complex gestures, where Joey not only had to tug at his hands but look, pull, figure out if the next step or solution to the problem was to bang his hammer or give a kiss or point to where he wanted to go, identifying the purpose of his flight. On this two-way street, Joey became a better problem solver. Dad then challenged him to find more complex solutions as they maintained a continuous flow of interactions and Joey learned to get off the plane and get the gas truck, or tool kit, or other passengers who could get on board (his favorite teddy bear and figures). He developed more complex gestures as he learned to 'close his seat belt, pull up the throttle, and listen for the count down (5, 4, 3, 2, 1)' etc., until he could first point and then say 'up' and 'go'. He mastered a sequence of actions (motor planning) necessary to take his trip through interactions.

This was a bumpy ride that first just met his proprioceptive and vestibular needs through rough house play where Dad 'recaptured' his son, ushered Joey into the symbolic world. The countless times his parents had pointed to the airplanes rumbling in the sky (which Joey was very sensitive to), and the plane trips they had taken to visit his grandparents, prepared Joey for the symbolization which now accompanied their lengthier and lengthier interactions. Choosing symbols and actions which had personal meaning based on experience, coupled with strengthened capacities for mutual attention, engagement, communication and problem solving, prepared Joey for the symbolic world.

Six to 18 months later

Six months later Joey and Dad continued to play on the floor (floor time), but this time family figures were boarding a small airplane as Joey called out 'All aboard' and told 'Mommy, on!', 'Daddy, on!', 'Ready, set, go [to] Nanny!' His family figures had driven up to the airplane on a bus,

transferred their luggage, and were ready to board. Joey was still the captain as Dad spoke for the various figures. Enveloped by strengthened basic developmental capacities for shared attention, engagement, reciprocal communication and problem solving Joey went on to develop some verbal language and motor planning to now express his ideas through symbolic play. His love of airplane rides readily expanded to symbolizing many other aspects of his real life experience as he pretended to be 'Pilot Joe' or 'Chef Joey' serving various foods (some of which he did not eat in real life!) at picnics and dinners. He was also a good daddy, giving his babies baths and putting them to bed with his personal rituals. He was the doctor, the teacher and the traffic controller, eager to 'play' at any time with his parents, sister, therapists and playdates. His language propelled forward in his eagerness to express his ideas with words, built on the strong gestural communication and comprehension aided by the use of toys, another language he could 'see' as he listened and talked. He practiced the words, embedded with rich meanings and affect cues, provided during the interactive play. His excitement and impulsiveness was co-regulated through affect cues signaling caution, moderation or action. The elaboration of play and ideas with toys relies on expanding interaction and communication, as well as motor planning abilities which allow the child to plan and execute his ideas. He was encouraged to develop ideas or stories with a beginning, a middle and an end which had a point or mission.

Soon Joey entered the world of symbolic solutions and magical thinking as his emotional range expanded and he moved from safe dependency themes, feeding, fixing and 'in control' of the world through symbolic role play and use of figures and toys related to reality, to the new emotional themes lurking in the shadows as he encountered meat eating dinosaurs ready to pounce on the plant eaters, jealous queens with spells and potions, mean stepmothers or sea witches impeding romance, brother lions fighting for a kingdom, hungry alligators ticking as they waited for mean pirates, and noble kings ready for the rescue. Now baskets became cages and jails, rubber bands bound the enemies, and Nerf swords were ready for battle so romantic weddings could go on. When all else failed or fears were too high, a magic wand could come to the rescue. To be sure, the 'good guys' almost always won. Time and space had no bounds!

During this stage Joey became very anxious as he struggled to understand what was real and what was fantasy, as well as to grasp his emerging range of new complex emotions related to competition, jealousy, power, loss, aggression, death, justice and morality which he would encounter in the next few years. Again it was lots and lots of symbolic play and reflective conversations which would give him the opportunity to safely explore these emotions, their meanings, and the alternative solutions they posed.

Joey's floor time partners all followed the same principles: let Joey initiate the idea, follow his lead, be a 'player' (not interviewer), do not change topics, help him elaborate by challenging him to solve the problems at hand (of which some occurred incidentally and others were opportunities created by you), provide new language to encourage conversation, not ask questions he already knew the answers to but get him to think, get him to predict what you will do through signals and cues, keep the back and forth pace rapid, and use affect cuing to provide challenges and continuous flow as long as possible. It was also at this time the stage was set up for the development of abstract thinking through reflective conversations where Joey was encouraged to give his opinions, figure out what he and others were feeling, empathize, and determine what was right and wrong, safe and dangerous.

Three years later

As he turned 6, Joey was contemplating motives as he discussed different strategies to capture the 'dark side'! He no longer automatically arrived in space ready to win. He even negotiated with Dad who would be on which side as he now planned his play and debated what was possible. Their conversations were now rich with why questions and discussions of feelings and motives as Joey embarked on his journey into abstract thinking and increased empathy. Dad asked questions that required Joey to anticipate how he would feel in certain situations as well as how someone else would feel. He asked Joey his opinions about choices and to compare and contrast experiences. Dad also realized Joey had missed a lot of incidental learning during the years that auditory and language processing difficulties impeded picking up information about the world around him. The combination of these efforts through daily conversations and floor time play started to move Joey towards more abstract thinking. The world was becoming less black and white.

He applied these emerging capacities to his interactions with peers as he realized some days his friends would be nice to him and other days not. Running with the crowd was now easy as he had learned to join social games on his numerous playdates, enjoying chase, 'capture the flag', and even soccer. On the floor, he and his friends engaged in superhero battles and tigers were no longer kitty cats. He joined the 'Justice League' as he borrowed the power of different superhero roles to compensate for his growing realization he was only a little kid after all in a world full of rules and many bosses loomed above him. He discovered the other 'darker' side of emotions as he encountered characters consumed with jealousy, competition, and lust for power. With his parents, he turned to his fears, sorrow, loss and disappointment, and need for compassion and support as he

expanded his emotional range. After a tough day he brought his daily struggles to floor time, reenacting his conflicts and confusion. After a victorious day he brought his success to floor time to analyze what was fair and loyal, as well as to empathize with others. As he experienced defeat or disappointment, it was only in play he could experiment with negative emotions and aggression without getting in trouble. Without play symbols he was at risk for acting out his newer emotions and conflicts. During floor time he prepared for the next day's encounters.

Symbolic play and conversations were now the opportunity to work out real life dilemmas whereas before he used it to imagine, fulfill wishes, practice roles, and enjoy the magic he conjured. Now, entering school years, 'saying so no longer made it so', as he grasped reality and reflected on the experience of others. He was now prepared to go onto the next stages of emotional development.

Conclusion

Not every child progresses at the same rate as Joey during 4 years of intensive intervention, central to which were the daily floor time interactions. But every child with developmental challenges must have the affective interactions necessary to develop each functional milestone. More than 6 months were necessary just to build the foundations for higher level problem solving and symbolic process. Whether playful rough housing or tickle games, or gleeful chase and hide and seek, the foundation was established for pleasurable relating and communicating through interaction. Joey's progress represents the stages of symbolic play and thinking essential for later life, stages traversed through affect based interactions as each stage emerged. This is evident when toys become symbolic ideas and words convey emotions, empathy and logical and abstract thinking.

Joey progressed continuously during the course of a comprehensive intervention program addressing his specific processing difficulties, and rooted in building interactive relationships, enabling him to climb the symbolic ladder. We believe that floor time was central to his progress in that it helped him build the structure necessary for each successive achievement. A single child's progress cannot, of course, prove the efficacy of an intervention. Neverthess, our observations suggest that play provided the lifeline for Joey's development. It set the foundation for abstract thinking needed for comprehension of literature and history, as well as logical thinking related to time, space and numbers. When symbols can stand in for reality, there is the opportunity to experiment, practice, comprehend, communicate, empathize, develop theory of mind, and become

logical and abstract through the interactions inherent in relationships, the essence of life.

Follow-up studies indicate many children initially diagnosed on the autism spectrum can achieve the developmental capacities necessary for relating and learning as Joey did following appropriate interventions (Greenspan and Wieder, 1997b; ICDL, 2002).

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