

**Early Childhood Mental Health Institute
Anchorage, Alaska May 25 & 26, 2010**

**Supporting Parent Infant
Relationships**

Understanding the Unique Neurobiological Profile of the
Infant and the Parent to Inform the Provider How to
Develop an Individualized Treatment to Enrich the
Parent Infant Relationship, the Foundation for Social
Emotional Development

**PRESENTED BY
Rosemary White, OTR/L
DIR FACULTY**

Rosemary White, OTR/L

- Neurodevelopmental Therapy Certified
- Sensory Integration Certified
- DIR®/Floortime Certified
- DIR®/Floortime Senior Faculty
- Faculty ICDL PhD Program

**Pediatric PT and OT Services
20310 19th Ave NE
Shoreline, WA 98155
206 367 5853**

**Pacific Northwest Pediatric Therapy
4305 SE Milwaukie Ave
Portland, OR 97202
503 232 3955**

pedptot@comcast.net
www.pedptot.com

- *How does the child develop the miraculous ability to attend, to be calm and interested in the world, to desire to interact with others and to “woo” those around them to interact with them?*

(Stanley Greenspan, MD – Building Healthy Minds)

- *How does the child learn to read other’s gestures, and indicate their needs, initially through gesture and then through the use of language?*

(Stanley Greenspan, MD – Building Healthy Minds)

- *How does the child develop the ability to think and plan how to interact with their world and to solve physical problems to achieve their goals?*

(Stanley Greenspan, MD – Building Healthy Minds)

- *How do they develop the ability to become a social beings, to think, to communicate as well as have compassion for others?*

(Stanley Greenspan, MD – Building Healthy Minds)

DIR® / Floortime – Greenspan and Wieder

- **Developmental**
Functional Emotional Developmental Levels - The essential foundation for interacting
- **Individual-Difference**
Developmental Challenges Related to Processing and Regulation
- **Relationship Based Approach**
Relationships organize the child's experience and support all domains of development.

RELATIONSHIPS The “R” of “DIR”

***The foundation for life is built
on the ability to attain, and
sustain a co-regulated
interaction.***

THE SOCIAL BRAIN

**Rosemary White OTR/L
DIR/Floortime Faculty**

The Social Brain

- The link between the brain and social abilities range from the simple motor skills that allow people to stand a proper distance from an acquaintance to the highest function that sustain moral decisions.
- Even though we typically think of emotional, psychological, or moral capacities as learned, the existence of a social brain indicates that our social skills also have a partly biological basis.

John Ratey, 2002

The Social Brain

- Humans evolved as social animals;
- When we interact with others ***we need***
 - Attention, perception, and memory to recognize another person and recall what we know about them and past dealing with them .
 - Emotion to interpret the feelings and intentions of others.
 - Motor skills and language to respond in socially appropriate ways.

John Ratey, 2002

The Social Brain

- In the social brain lower and higher functions are equally important for successful behavior as we have to pay attention to many stimuli and respond to many actions all at the same time.
 - Chatting at the water cooler requires maintaining the right distance, a neutral posture, appropriate body language, good/flexible eye contact, a balance of listening and speaking - all physically lower skills that have nothing to do with intellect but weigh heavily on social success.

John Ratey, 2002

Development of the Social Brain

- The beauty of development of the social brain is that it can be approached from so many different angles, and the richer and more varied the experiences, the stronger the neural connections will become.
- The social brain is not a single entity found in any one place. Rather it comprises of a combination of different structures and systems working together in harmony.

John Ratey, 2002

Development of the Social Brain Baby and Mother Interacting

Mother enters ->infant smiles ->mother responds with a smile ->baby smile broadens -> mother's smile broadens

- This is interpreted as the mother supporting the infant emotional regulation, which is imprinting on the baby's developing anterior temporal cortex.
- The mother and infant are in a positive feedback loop of sensory, motor, affective interaction in which the child is learning about emotional expression as the mother and infant synchronize their emotional states.
- At this stage the mother and infant are so closely tied that the infant cannot distinguish between his own internal states and his mother's influence.

John Ratey, 2002

Development of the Social Brain Baby and Mother Interacting

- While it is important to learn about emotions and emotional regulation through this period of intense closeness, it is also important for both mother and child to develop boundaries, to learn how to individuate.
- When there is too much physiological arousal in the infant he may become uncomfortable he will look away.
- The mother can effectively maintain an interaction with her infant by knowing when to pay attention and when to withdraw.
- This provides the foundation for the rhythms of social communication.

John Ratey, 2002

Development of the Social Brain Shared Attention

- The infant begins to demonstrate capacities for shared attention in the first year of life.
- Alternating gaze is present when the infant engages in attending and then gazes at the parent to see if they are sharing the same focus of attention. At this stage in development the infant is focused on self.
- The infant later points to indicate to the parent his focus of attention.
- Later, the infant follows the parent's gaze, point and then verbal comments to share attention around the parent's focus of attention.

Development of the Social Brain Shared Attention

- **Alternating gaze** between object and person (child initiates)
- **Responding** – follow the gaze of someone else (child responds)
- **Initiating coordinated attention** to elicit aid in attaining an object or event (9-24 mths)

Joint attention is initiated with

Gaze -> pointing -> vocalizations -> words.

Peter Mundy, November 2006

Development of the Social Brain Shared Attention

- As the infant and developing child looks back and forth in an interaction around an object of interest they develop
 - Their own perception of the object and a representation of self
 - Awareness of the other person looking at the object and a representation of the other person
 - Then putting both those things together.

Peter Mundy, November 2006

Development of the Social Brain Joint Attention

Breaking that down to skills involves

- Self monitor
- Other monitor
- Integration of self and other.
 - In order to integrate you have to be able to switch your attention between self and other – fast in time – so you have to disengage, flexibly switch attention to other, then switch back – you have to be able to remember things and represent them, you have to self monitor and other monitor.

Joint attention involves interconnectivity within various brain areas.

Peter Mundy, November 2006

The Social Brain

- Cerebellum - “rhythm and blues” center keeping actions, emotions, language, and memories, running smooth and seamless. It is crucial for enabling us to do the social dance gracefully.
- Limbic System - Especially the amygdala and hypothalamus, gives us the pressure to seek others and helps add intensity to social bonds through hormones and direct neuronal input. The amygdala plays a crucial role in face recognition, connecting with the hippocampus and arousal system to tie together memory and behavioral response to tell us how to respond to that particular face.

John Ratey 2002

The Social Brain

- Anterior Cingulate Gyrus (part of the Limbic System) - Receives more input from the thalamus (sensory filter) than any other cortical region and has many connections to other brain areas. It directs our inner response to others and keeps us willing and interested in being with them.
- Orbital Frontal Cortex - Error catcher and with its partners, the anterior cingulate gyrus and the ventromedial cortex of the frontal lobe, is crucial for empathy and evaluation of genuineness of the words and intentions and comments of others.

John Ratey, 2002

The Social Brain

- Right Hemisphere - Helps pick up on non verbal cues in speech and gesture as well as in facial expressions. Emotional prosody, or the tone of voice - the emotional content of speech which gives cues as to other people's moods and intentions.
- The right parietal lobe is involved in attention, music, body image, body scheme, face recognition and the physical act of dressing. It is crucial in giving an overall picture of ourselves in space and how we relate physically to another person.
- Left Hemisphere - Deciphering the content of language.

John Ratey 2002

The Social Brain

- As social development continues facial expression, tone of voice and body language are all important social cues that the child must learn in order to navigate the environments in their life (home, grandparents, neighbors, daycare, school, playground)

The Physical Parameters of Relationships - Sensory Processing, Perception and Movement

**Rosemary White OTR/L
DIR/Floortime Faculty**

Focus on Sensory Processing, Perception & Praxis

- Function of each of us as individuals arises in the interaction of multiple processes, including those that are related to perception, cognition and action.
 - **Perception** is the integration of sensory impressions into psychologically meaningful information.
 - **Cognition (attention, motivation, and emotional aspects of motor control) underlie establishment of intent or goals.**
 - **Motor Action** implies understanding motor output from the nervous system to the muscles for co-ordinated functional movement.

Adapted from:
"Motor Control Translating Research into Clinical Practice"
Shumway Cooke & Woollacott

Sensory Processing, Perception and Movement

- Movement arises from the interaction of both perception and action systems, with cognition affecting both systems at different levels.
- Perception can be thought of as progressing through various stages.
 - Sensations travel in an electro-physiological journey from the receptor to the cortex via both direct routes and indirect routes.
 - There is no perception of a sensation until it reaches the cortex - up until that time it is all electro-physiological impulses.
 - Parallel processing, connecting with other sensations, is continually occurring as sensations travel via the various pathways.
 - Each stage reflects specific brain structures that process sensory information at different levels from initial stages of sensory processing to increasingly abstract levels of interpretation and integration in higher levels of the brain

Sensory Processing

The brain is constantly receiving information about its current state, both from the senses concerning events in the environment, and from internal messages about the position of the body, its level of arousal, the activities of the various organs and the chemical and nutritive state of the blood (Ratey, 2002 p.54)

Sensory Perception

- **Sensory Perception**
 - **Perception** is the integration of sensory impressions into psychologically meaningful information. (Shumway Cook and Wallocott, 2002)
 - **Perception** requires a form of expectation, of knowing what is about to confront us and preparing for it. (Ratey 2002)
 - **Perceptions** develop from interactions
 - The sensations that come in from the environment (interactions with people and the physical environment) are fitted into categories or constructs that we have experienced.
 - We are constantly priming our perceptions, matching the world to what we expect to sense, and this making it what we perceive it to be. (Ratey, 2002)

Memory & Sensory Association

- Sensory input travels to the cortical area that is dedicated to that sensory input
 - Parietal Lobe - somatosensory stimuli (touch and proprioception)
 - Occipital Lobe - visual stimuli
 - Temporal Lobe - auditory stimuli
- Input from each of the lobes then goes to the
 - Limbic lobe to retrieve previous memories of the sensation
 - Sensory association area to connect with other sensory input - thus interconnectivity is rich and essential for comprehensive perception

Perceptions Define Reality

Sensory experience is not precisely recorded by the brain but is influenced by a variety of factors.

- Context of the stimulus or the situation in which it occurs is just as important as the stimulus per se (being tickled in contrast to tickling oneself)
- Context applies past experiences which can influence expected perception (an infant who has had many painful shots at a previous MD visit may tense muscles and fuss when a subsequent shot is administered)
- Stimulus characteristics influence sensory perception - intensity, location on body, repetition, duration
- Age, sex and autonomic nervous system baseline (threshold)
 - AOTA Self Study Series Chapter 3, p12

Sensory Processing

Hierarchical Processing

- Higher brain centers (cortical structures) integrate inputs from many senses and interpret incoming sensory information.
- The higher centers (cortical structures) abstract, interpret and integrate.
- Movement at higher levels involves motor plans and strategies for action
- Movement at lower levels - input is monitored and regulated so that movement is appropriate for the context
- Cognition systems overlap with perception and action systems, involving high level processing for both perception and action.

Sensory Processing

Parallel Processing

- Same sensory signal is processed simultaneously in different parts of the central nervous system (eg. a same signal will be processed in the basal ganglia and the cerebellum simultaneously before sending it back to the motor cortex for action)
- Simultaneously sensory information about the same event will be processed from different sensory channels (visual, proprioceptive, vestibular) leading to each system processing different bits of information allowing one to develop a perception of the whole.
- The same information can be processed in two separate pathways leading to redundancy but also providing a balance of the perception of the same sensory experience (eg. tickle, pain)

Interconnectivity

Each sensory system does not function alone but is an expression of interconnectivity at all levels of the CNS

Praxis

- ***Praxis***
 - Practic processes proposed by Ayres (1985)
 - Ideation or conceptualization (executive function)
 - Planning or choosing a sequence of action (executive function)
 - Motor execution (strictly motor)

**In addition to these aspects of praxis the capacity to
ADAPT
is essential for successful success in interactions.**

When we have an idea, a plan, and then execute the plan

We have to have the capacity to adapt.....

In order to **ADAPT** one has to -

Compare what is the expected sequence of action with the moment to moment "feedback" from all the

SENSES OF THE BODY

thus enabling one to continue or to give clear information in order to **ADAPT**

The “R” - Relationships

The foundations for life is built on the ability to attain and sustain a co-regulated interaction.

Primary Principle

Relationships are the vehicle for creating learning interactions which are tailored to child’s individual processing differences and thereby enable child to progressively master functional developmental capacities.

SOCIAL RELATEDNESS AND AFFECT CUEING

**Rosemary White OTR/L
DIR/Floortime Faculty**

SOCIAL RELATEDNESS AND AFFECT

Social relatedness:

- Reciprocity
- Anticipation

Affect cueing system:

- Social referencing
- Joint attention

REFERENCES: Mirror Neurons (Rizzolatti),
Immaturity of Cell development in Limbic System
and Cerebellum (Bauman); Joint Attention (Mundy,
Dawson, Courschasne)

SENSORY PROCESSING

Rosemary White OTR/L
DIR/Floortime Faculty

Sensory Processing Profile

**The child's ability to
process and synchronize
input from their sensory systems -**

- *Proprioceptive - muscles & joints,*
- *Vestibular - movement in space & relationship to gravity,*
- *Tactile - sense of touch, the body's ear,*
- *Gustatory - taste,*
- *Olfactory - smell,*
- *Auditory - sound*
- *Visual - vision*

**CONTRIBUTES TO
HOW THE CHILD EXPERIENCES THE WORLD,
INTERACTS WITH OTHERS
& LEARNS.**

History of Sensory Integration Theory - A Jean Ayres 1972

Sensory Integration in Development

- The developing child begins to attach meaning to the stream of sensations experienced.
- The child becomes increasingly adept at shifting attention to what he or she perceives as meaningful, tuning out what is irrelevant to current needs and interests.
- The child can organize play behavior for increasing lengths of time and gain control in the regulation of emotions.
- "Inner Drive" leads the child to search for opportunities in the environment that are the "just right" challenge which requires effort but is accomplishable for the child.

History of Sensory Integration Theory - A Jean Ayres 1972

- The proximal senses dominate early in life and continue to exert influence in critical ways as the visual and auditory systems gain ascendancy.
- Throughout development, sensory integrative processes contribute to the child's construction of his or her identity, but many other influences are powerful -
 - The family and culture that shape the child.
 - The interpretation of the child's behavior by others.
 - The child's talents and abilities
 - Chance events that carry special meaning to the child.(Parham, 2002)

Dual Coding

- Sensory experiences are dual coded for affect
- Affective experiences are perceived as sensation
- Neither experience occurs without the other.

Osten, 2006

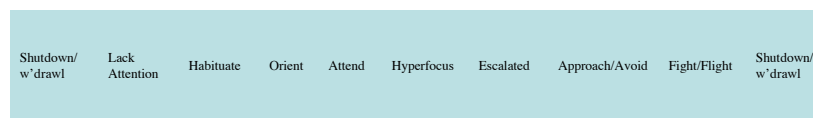
Arousal & Sensory Modulation

- Sensory Processing
- Synchrony of Sensory Processing
- Sensory Modulation
- Salient Landscape and Emotional Response

How do we bring our understanding of this individual difference into our affective interaction?

Is it more than sensory diet?

Sensory Modulation Continuum Synchrony of Sensory Processing (Range of Response)



Failure to orient <> *Homeostasis* <> *Over Orientation*

High
Neurophysiological
Threshold

Low Neurophysiological
Threshold

Poor Registration
Sensation
Seeking

Sensitivity to Stimuli
Fight or fright
Sensory avoiding
Flight or freeze

SENSORY AFFECTIVE EMOTIONAL REGULATION

**Rosemary White OTR/L
DIR/Floortime Faculty**

REGULATION REFLECTS PHYSIOLOGICAL & EMOTIONAL MATURATION OF THE CHILD

- Sensory/affective/emotional regulation.
- Affect cues to regulate -> impulse control.
- Social awareness and regulation of behavior relative to the social environment.

How do we address this

- *In the flow of a co-regulated interaction*
- *Symbolically*
- *In reality*

Regulation Reflects Physiological and Emotional Maturation of the Child

- *Regulation is facilitated by the caregiver providing comforting stimulation to the infant in response to the infant's unique sensory profile. Synchrony between caregiver's handling and the child's calming behaviors enables the child to develop internal regulation and control of his or her behavior.*
- *The caregiver continues to provide support for regulation through sensory stimulation in the first years of life but the intensity of their support diminishes as the infant, toddler and child develop their own strategies.*
- *As the child matures the caretaker role shifts from sensory support to affect and verbal cues. This is particularly evident around regulation of behavior in relation to the social environment.*

- *As the child matures his regulation of behavior shifts from the external guidance of the caretaker and those intimate to the child, to the child developing his own internal control and an inner voice.*

As a result of regulation the child develops -

- *Capacity to increase attention to task and to self calm.*
- *The ability to curb or monitor behavior in response to environmental cues.*
- *Impulse control, flexibility and a decreased need for structure and predictability.*

SELF REGULATION

- *Self-regulation is the ability to achieve, monitor and change a state of attention and behavior to match the demands of the environment or situation.*
- *Self regulation enables the individual to initiate and cease activities in relation to the task and situational demands and to comply with a request of another.*
- *Self regulation provides the foundation of ones ability to function in society.*

DeGangi (2000)

THIS IS NOT SENSORY ALONE

Addressing sensory concern is not the “bullet”!!

It is the combination of supporting synchrony of sensory processing in concert with emotional support & cognitive function

All that is within us as individuals has to be addressed harmoniously - Supporting Human development

is not

best addressed in a segmented or hierachial approach -

Integration of Every Aspect of Interaction is Essential for Development

The Case for Affect

- Intent provides the purpose and the direction to organize the various parts of our mind.
- Emotion is a process that integrates distinct entities into a functional whole
(Siegel and Hartzwell, 2003)
- Children with special needs have processing challenges that interrupt their ability to use affect.

Osten, 2006

AFFECT

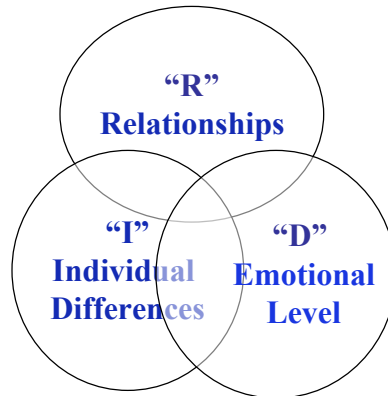
Affective interactions at each of the 6 levels facilitates the development process:

- Affective interactions help the child **regulate** around sensory experiences
- Affective interactions and experiences allow the child to **draw meaning** from sensory events
- Affect helps the mind **create connections** between different developmental domains, like memory, motor, cognitive, visual spatial, etc.
- Affect drives the development of **functional adaptive responses**.

Osten, 2006

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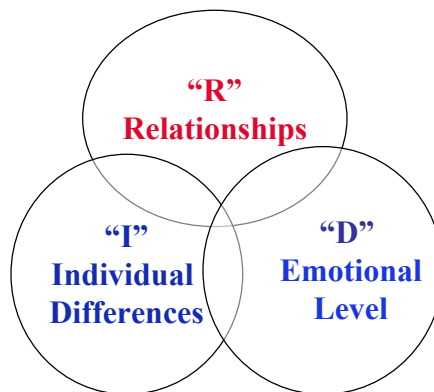
Developmental, Individual Difference, Relationship Based Model



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Developmental, Individual Difference, Relationship Based Model

"R"
Affective interactions
Develop relationships
- child/caregiver
interactions, family
patterns,
child/peers
Emotional range,
Symbolic capacities,
Abstract thinking and
Creativity relative to
self & others.



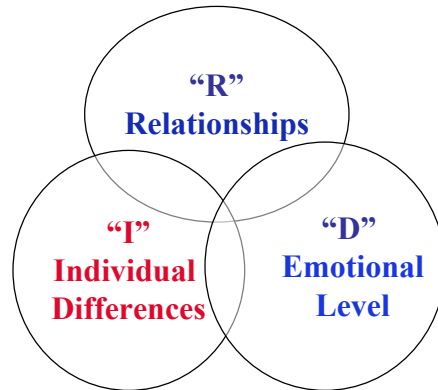
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Developmental, Individual Difference, Relationship Based Model

"I"

Biologically Based Differences

- Sensory Processing/Sensory Modulation,
- Postural Control/Muscle tone/ Praxis (Ideation, Planning & Sequencing, Execution & Adaptation.
- Communication - Capacity to read & use gesture, vocalization, tone of voice & language to communicate.
- Visual Spatial - Ability to visually attend, share visual attention, assess visual figure-ground & integrate visual with other sensory stimuli
- Bio-medical differences



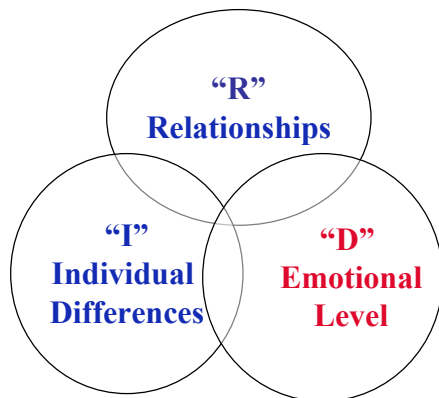
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Developmental, Individual Difference, Relationship Based Model

"D"

Functional Emotional Developmental

- **Shared attention** -
- Capacity to take in the sights and sounds and share with others
- **Engagement** - Woo and be wooed
- **Affect to show intentions** - Initiate interactions
- **Behavioral Organization**, -
Sense of Self, Shared Problem Solving & Capacity to Stay in a Long Continuous Flow - Physically & emotionally
- **Representational Capacities**
- **Emotional Thinking**



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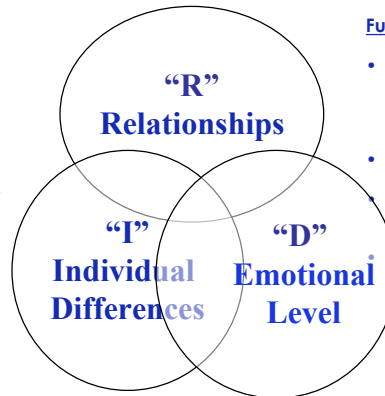
Developmental, Individual Difference, Relationship Based Model

“R”

- **Affective Interactions**
Develop relationships - child/caregiver interactions, family patterns, child/peers
Emotional range,
Symbolic capacities,
Abstract thinking and
Creativity relative to self & others.

“I”

- **Biologically Based Differences**
Sensory Processing/Sensory Modulation,
Postural Control/Muscle tone/ Praxis
(Ideation, Planning & Sequencing,
Execution & Adaptation).
Communication - Capacity to read & use
gesture, vocalization, tone of voice &
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share visual attention, assess visual
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“D”

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Affect to show intentions - Initiate interactions
Behavioral Organization, - Sense of Self, Shared Problem Solving & Capacity to Stay in a Long Continuous Flow - Physically & emotionally
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FUNCTIONAL DEVELOPMENTAL LEVELS The “D” of “DIR”

Greenspan and Wieder

- **Co-Regulation and Shared Attention**
- **Forming Relationships and Mutual Engagement**
- **Affect to Intent**
 - Intentional Two Way Communication,
 - Purposeful Interactions with Gestures
- **Behavioral Organization a Sense of Self**
 - Two Way Purposeful Interactions with Complex Gestures
 - Shared Problem Solving
- **Elaborating Ideas,**
 - Representational Play
 - Pretend Play
 - Creating Symbols
- **Building Bridges Between Ideas**
 - Emotional Thinking

Assessment

Rosemary White OTR/L
DIR/Floortime Faculty

Assessment

- DEVELOPMENTAL HISTORY;
- OBSERVATION OF FAMILY PATTERNS;
- OBSERVATIONS OF CHILD-CAREGIVER INTERACTIONS
 - > Functional Emotional Developmental Levels
 - Shared attention and regulation
 - Engagement
 - Affect to Intent
 - Behavioral Organization and Shared Problem Solving
 - Elaboration of Ideas
 - Building Bridges between Ideas
 - Range of Capacity
 - At age level (7)
 - Achieves Capacity Independently - at age level but vulnerable to sensory and or emotional factors (6); Not at age level and cyclical (sensory or emotional) but independently comes back (5);
 - Needs Caretaker Support - With affect and support child expands (4); islands (3); In and out (2); Barely reached (1).

Assessment

ASSESSMENT OF THE UNIQUE INDIVIDUAL PROFILE

- *Regulatory capacities, sensory processing and sensory modulation;*
- *Postural control for function;*
- *Response to sound, gesture and verbal communication;*
- *Use of vocalizations, gestures, words and language for communication;*
- *Response to visual environment;*
- *Praxis - ideation, planning, sequencing, execution and adaptation.*

Functional and Social Challenges **Reflecting Individual Differences**

- Sensitivity - emotionally and physically
 - Can contribute to anxiety, defensive behavior.
- Challenges in regulation - emotionally and physically
 - Can contribute to impulsivity, shifts of attention, misinterpretation of social cues - gesture, affect and language of others.
- Challenges in Praxis - ideational or ideo-motor
 - Can contribute to lack of focus, rigidity , expression of boredom.
 - Can contribute to difficulty in following another's lead.
 - Can be interpreted as the child "marches to their own drum", or is "non compliant" or "stubborn".

The FEAS is a Criterion-Referenced Assessment

- The FEAS is designed to assess a child's functional emotional and social capacities in the context of the relationship with the caregiver.
- It can be used for screening or in conjunction with other tests as a diagnostic tool.
- It was normed on children 7 months to 4 years.

FEAS was designed for children and caretakers who experience:

- Disorders of self regulation, attachment, communication, PDD and autism.
- Socio-environmental challenges such as multi-problem families or a caregiver who struggles with caretaking because of depression, high parental stress or other circumstances that impact their ability to support the child's emotional development.

FEAS

- Useful in validating clinical observations
- Provides an effective format of eliciting parent concerns.
- Information gleaned from the assessment can segue into making recommendations for intervention.

FEAS ASSESSMENT METHOD

- The child and caregiver are evaluated on play capacities during symbolic and sensory (tactile and movement) play over a fifteen minute period.
- Five minutes with symbolic, five minutes with tactile and five minutes with movement toys.

**HOW DO WE “CALIBRATE” OUR
INTERACTIONS TO SUPPORT
“INDIVIDUAL DIFFERENCES”?**

The developmental capacities that emerge
during the child’s early years.

**THE ESSENTIAL FOUNDATION
FOR INTERACTION.**

DIR®/Floortime A Dynamic Process

**Rosemary White OTR/L
DIR/Floortime Faculty**

The “D” of “DIR” **FUNCTIONAL DEVELOPMENTAL LEVELS**

Greenspan and Wieder

- ***Co-Regulation and Shared Attention***
- ***Forming Relationships and Mutual Engagement***
- ***Affect to Intent***
 - *Intentional Two Way Communication,*
 - *Purposeful Interactions with Gestures*
- ***Behavioral Organization a Sense of Self***
 - *Two Way Purposeful Interactions with Complex Gestures*
 - *Shared Problem Solving*
- ***Elaborating Ideas,***
 - *Representational Play*
 - *Pretend Play*
 - *Creating Symbols*
- ***Building Bridges Between Ideas***
 - *Emotional Thinking*

DIR® Level I: ATTENTION AND REGULATION

- **Co-regulation -> the foundation for the rhythm of social interaction**
 - **Shared social referencing and share focus of attention**
-
- *Becoming calm, attentive and interested in the world*
 - *The child can stay regulated without over or under- reaction to external or internal stimuli in order to attend and interact.*
 - *As the child grows and achieves higher levels of functioning , attention and regulation are evidenced by the capacity to maintain a long continuous flow of interaction.*
- (Developing Birth to 3 months)**

DIR® Level II - MUTUAL ENGAGEMENT

- *Forming a relationship with an emotionally available caregiver for pleasure, but also for comfort and soothing when needed, so that she can deal with satisfactions and frustrations.*
 - *As the child grows, the capacity for engagement will embrace the full range of emotions (joy, caring, anger, jealousy, fears, competition etc), supported by affect cues (e.g.. smiles or scowls) from others, which help the child stay engaged and feel comfortable and curious about different experiences.*
 - *Social Interaction is a continuous flow of both responding, initiating and responding of shared social referencing and shared attention through a full range of emotion*
- (Developing 2 – 7 months)**

DIR® Level III: AFFECT TO INTENT

- **Intentional Two Way Communication,**
- **Purposeful Interactions with Gestures**

- *The child uses back and forth reciprocal gestures, including affective interactions to convey his or her intentions or desires to start the “conversations” needed to participate actively in the world.*
- *The simple gestures of a child less than a year old, such as pointing or playing “give and take”, turn to complex gestures in the second year, and then to back and forth conversation as the child develops language.*

(Developing 3-10 months)

DIR® Level IV: BEHAVIORAL ORGANIZATION - A SENSE OF SELF

- **Two Way Purposeful Interactions with Complex Gestures**
- **Shared Problem Solving**

- *Children learn more about how to interact with the world with their new ability to move, use their hands and use complex gestures and words to get what they need or want .*
- *When they are unable to achieve success with their movement or to reach their goal they will seek out others to “solve the problem” as they realize that there is a “bigger person” who can help me achieve my goal with shared problem solving.*
- *Complex gestures involve sequences - all the steps needed to communicate and solve problems - first through actions and then with words as well.*

(Developing 9-18 months)

DIR® Level V - ELABORATION OF IDEAS

- **Representational Play**
- **Pretend Play**
- **Creating Symbols**

- *The child begins to express thoughts, ideas and feelings through symbols, using pretend play and words. A child can communicate what she imagines through role play, dress up, dolls, action figures, which now represent experiences from real life as well as those learned from other sources.*
- *These become her own as she projects her feelings into the character and actions.*

(Developing 18-30 months)

DIR® Level VI - BUILDING BRIDGES BETWEEN IDEAS

- **Emotional Thinking**

- *The child can connect and elaborate ideational sequences in logical ways, taking time and space into account.*
- *Realistic conversations and pretend play stories are now made up of logically interconnected ideas. They often have a beginning, middle and end, with clear motives and anticipated consequences.*
- *As logical bridges between ideas are established, reasoning and appreciation of reality grow, including distinguishing what's pretend (and magical thinking) from what's believed to be real, what's right and wrong, and learning to deal with conflicts.*
- *The child can now also abstract and reflect on various feelings and lessons to be learned.*

(Developing 30-48 months)

*Functional Emotional Levels and
Individual Differences
- Putting it All Together so that
Relationships Thrive*

**REMEMBER AMID THE SCIENCE
AND THEORY**

*This is not sensory alone, but we have to consider
the whole child - the sensory, affective, emotional,
motor development in the context of their
relationships with others and with their world.*

- **RHYTHM AND RECIPROCITY**
- **RELATIONSHIP**
- **CO- REGULATION**

**BUT ABOVE ALL
HAVE FUN WITH ONE ANOTHER**

WHAT DOES TREATMENT LOOK LIKE ?

Treatment is relationship driven.

Focus is on both the parent and the child in their relationship insuring that you are guiding them to sustain a back and forth interaction.

Taking into account -

- Shared Attention and Engagement***
- Sensory Processing and Reactivity***
- Emotional Responses***
- Intention to communicate***
- Praxis and Adaptation***

The goal is to achieve a co-regulated interaction.

INTERACT WITH RHYTHM & RECIPROCITY - THE KEY TO SUPPORTING DEVELOPMENT

- *Affect (facial expression, tone of voice, physical action and gesture) is the "glue" for functional emotional development*
- *Sensory input, including proprioception, touch and movement in our physical interaction and visual and auditory in our affective interaction, is the "glue" for the neurological organization.*
- *Pacing in relation to the interactive partner to take into account prediction, anticipation, planning and adaptation is essential to support the interaction.*
- *Focus on cross modal integration at the cortical level is essential to support develop in the relationship.*

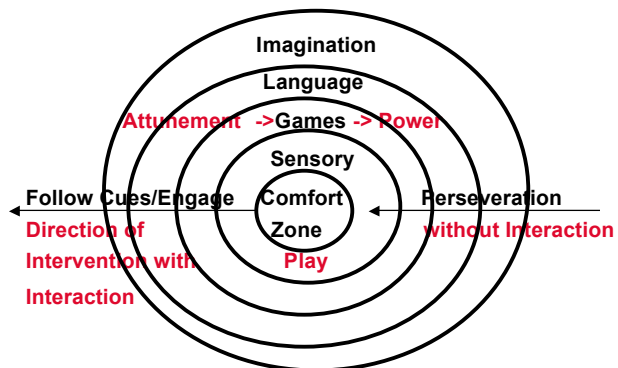
To treat the whole child one has to address all areas simultaneously.

The goal is to achieve co-regulated interaction with many circles of communication.

Comfort Zone Chart

Rick Solomon MD - PLAY Project

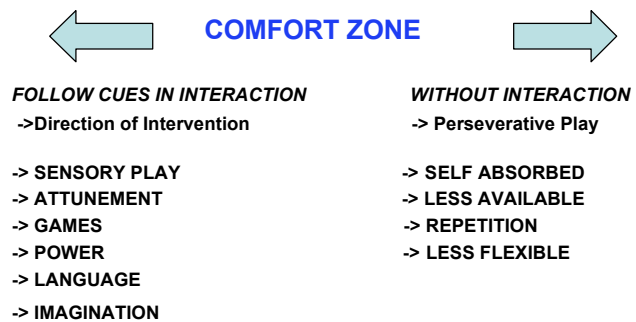
Adapted by Rosemary White 2007



Comfort Zone Chart

Rick Solomon MD - PLAY Project

(Adapted by Rosemary White 2007)



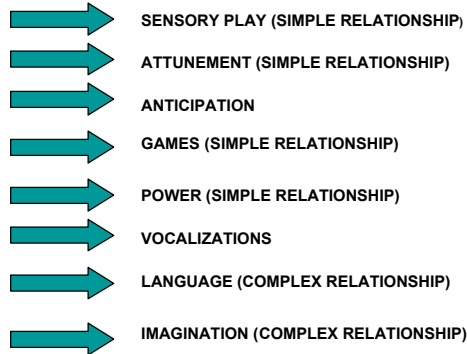
COMFORT ZONE -> INTERACTION

COMFORT ZONE IS THE ACTIVITY THAT THE CHILD GRAVITATES TO WHEN THEY ARE ALONE OR NOT IN AN INTERACTION WITH OTHERS.

WITHOUT INTERACTION ->

PERSERVERATIVE PLAY, SELF ABSORBED, LESS AVAILABLE, REPETITION, LESS FLEXIBLE

FOLLOW CUES OF THE COMFORT ZONE LEADS YOU IN YOUR INTERACTION WITH THEN CHILD ->



Rick Solomon MD - PLAY Project
Adapted by Rosemary White 2009

The Affect Piece -

Affect is the “glue” for functional emotional development.

- ***The child responds to the caregiver who engages in the affective dance***
- *The child who is under responsive is drawn into the relationship when the caregiver is very engaging, up regulating and brings meaning to the child’s every action. The interaction can be very “vibrant”.*
- *The child who is over responsive is drawn into the relationship when the caregiver is equally engaging but their actions and voice are down regulating. The interaction is often at a whisper, with slow, predictable movements drawing the child into a safe and secure relationship.*

The Dance -

- *Affective interaction*
 - *Sensory Modulation and Attention*
 - *Regulation (caretaker support
-> self regulation)*
 - *Praxis - intentionality in action and
communication with the social capacity to adapt.*
- > Successful interaction over all the Functional
Emotional Levels of Development*

PRINCIPLES OF DIR® / FLOORTIME:

- *Extend the interaction - the relationship is in
the forefront (circles of communication)*
- *Broaden the child's range of interactive
experience*
 - *Deepen the thematic and the emotional range*
 - *Broaden the range of processing or motor
capacities used in interactions*
- *Simultaneously attempt to mobilize the six functional
developmental levels.*

(Greenspan and Wieder)

Development of Interaction

The Emotion

- Security and Warmth

The Sensation

-Vision

-Sound

-Touch

- Movement

Early Rhythms of Interactions

- Look
- Vocalize
- Touch
- Caress
- Soothe

*I am thinking of pace, rhythm,
timing to insure
interconnectivity ...*

Name:	Age:				
Developmental Levels	<p>I - Co-Regulation -> Regulation -> Shared Attention (taking in sights & sounds) II - Mutual Engagement (to woo and be wooed in a full range of emotions)</p>	<p>III - Affect to Intent IV - Behavioral Organization Sense of Self Shared Problem Solving</p>	<p>III - Affect to Intent IV - Behavioral Organization Sense of Self Shared Problem Solving</p>	<p>V - Elaboration of Ideas - Engages in Representational Play and/or Symbolic Play</p>	<p>VI - Building Bridges Between Ideas Emotional Thinking</p>
Capacities that Contribute to the Developmental Level	<p>Responding & Initiating Joint Attention The child is responsive to - - Gesture (eg, facial expression, body movement, sound, vocalization, point) → - Gaze to the object of interest - &/or Verbal → Gaze to the object of interest → change in tone indicating something is going to happen → anticipation indicating the child is predicting what is going to happen → Facial Gaze to Play Partner Indicating Shared Social Referencing with Shared Focus of Attention</p> <p>The child initiates, inviting play partner to share attention around the child's interest with an - - Alternating Gaze - &/or Gestural cuing (eg, facial expression, body movement, sound/vocalization, point) - &/or Verbal cuing</p> <p>Integration of both responding and initiating shared attention in a continuous flow of interaction</p> <p>Emotional Tone and Range</p>	<p>Primarily Gross Motor Physical Activity but can be combined with fine motor.</p> <p>The child: - Responds to invitation from play partner to engage in gross motor activity OR - Initiates gross motor activity - Sustains Interaction - Adapt to other's ideas as they "join" or "piggy back" onto the child's ideas in the context of activity. - Expand activity - Adapt to others ideas as they "build on & expand" the play with new ideas in the context of activity. - Expands activity</p> <p>Emotional Tone and Range</p>	<p>Primarily Fine Motor Physical Activity but can be combined with gross motor.</p> <p>The child: - Responds to invitation from play partner to engage in fine motor activity OR - Initiates fine motor activity - Sustains Interaction - Adapt to other's ideas as they "join" or "piggy back" onto the child's ideas in the context of activity. - Expand activity - Adapt to others ideas as they "build on & expand" the play with new ideas in the context of activity. - Expands activity</p> <p>Emotional Tone and Range</p>	<p>Representational Play of Real Life Experience &/or Symbolic Play</p> <p>The child: - Responds to invitation from play partner to engage in representational or symbolic play OR - Initiates representational or symbolic play - Sustains Interaction - Adapt to other's ideas as they "join" or "piggy back" onto the child's ideas in the context of activity. - Expand activity - Adapt to others ideas as they "build on & expand" the play with new ideas in the context of activity. - Expands activity</p> <p>Emotional Tone and Range</p>	<p>Symbolic Play & Reality Play - a Flow with a Beginning, Middle & End/ Reflect on Motives/ Differentiate Between Real & Pretend</p> <p>The child: - Responds to invitation from play partner to engage in play with a logical flow. OR - Initiates play with a logical flow. - Sustains Interaction - Adapt to other's ideas as they "join" or "piggy back" onto the child's ideas in the context of activity. - Expand activity - Adapt to others ideas as they "build on & expand" the play with new ideas in the context of activity. - Expands activity</p> <p>Emotional Tone and Range</p>
Affect/Emotional Support to Sustain a Continuous Flow	<p>Type of Affect/Emotion that supports the child is</p> <ul style="list-style-type: none"> - Visual - facial expression, move your body so that you are below the child's body (lie on the floor, sit so that you are in the child's line of vision); remain still to create a visual anchor, position 4-6 feet from the child; use physical body actions for child to observe, use body actions that also convey emotional intent. simple drawings to convey sequence of events and/or emotion ; Other ... - Auditory - low frequency, high frequency, whisper, prosody and rhythm; Other ... - Gesture - Body Movement - big movement, small movements, touch, point; Other ... - Sensorimotor - Physical Movement in the Interaction - big movement, small movement, fast, slow, linear planes, side to side, rotation; Other ... - Touch - firm touch, light touch; Other ; Support Surface - firm, soft, variable; Other ... - Facial - fast, slow, predictable or variable; Other ... - Language - simple words highlighting action; tone expecting a response; expressing your desires "I want", "I love", "I wonder"; clarification; language to clarify context; language to support comprehension; back and forth dialogue; Other ... - Emotional Tone - matched, down regulating, up regulating, playful; Other ... 				

Name:	Age:				
Name: John	Age: 3 years				
DIR OCCUPATIONAL THERAPY ASSESSMENT-TREATMENT REVIEW					
Developmental Levels	<p>I - Co-Regulation -> Regulation -> Shared Attention (taking in the sights and sounds of the world) II - Mutual Engagement (to woo and be wooed in a full range of emotions)</p>	<p>III - Affect to Intent IV - Behavioral Organization Sense of Self Shared Problem Solving</p>	<p>III - Affect to Intent IV - Behavioral Organization Sense of Self SelfX,</p>	<p>V - Elaboration of Ideas - Engages in Representational Play and/or Symbolic Play</p>	<p>VI - Building Bridges Between Ideas Emotional Thinking</p>
Capacities that Contribute to the Developmental Level	<p>Responding & Initiating Joint Attention The child is responsive to - - Gesture (eg, facial expression, sound, vocalization, and/or point) → - Gaze to the object of interest - Verbal → Gaze to the object of interest → change in tone indicating something is going to happen → anticipation indicating the child is predicting what is going to happen → Facial Gaze to Play Partner Indicating Shared Social Referencing with Shared Focus of Attention</p> <p>The child initiates, inviting play partner to share attention around the child's interest with an - - Alternating Gaze - Gestural cuing (eg, facial expression, sound, voice, and/or point, verbal cuing</p> <p>Integration of both responding and initiating shared attention in a continuous flow of interaction</p> <p>Emotional Tone and Range</p>	<p>Primarily Gross Motor Physical Activity but can be combined with fine motor.</p> <p>The child: - Responds to invitation from play partner to engage in gross motor activity OR - Initiates gross motor activity - Sustains Interaction - Adapt to other's ideas as they "join" or "piggy back" onto the child's ideas in the context of activity. - Expand activity - Adapt to others ideas as they "build on & expand" the play with new ideas in the context of activity. - Expands activity</p> <p>Emotional Tone and Range Matched Emotional Tone</p>	<p>Primarily Fine Motor Physical Activity but can be combined with gross motor.</p> <p>The child: - Responds to invitation from play partner to engage in fine motor activity OR - Initiates fine motor activity - Sustains Interaction - Adapt to other's ideas as they "join" or "piggy back" onto the child's ideas in the context of activity. - Expand activity - Adapt to others ideas as they "build on & expand" the play with new ideas in the context of activity. - Expands activity</p> <p>Emotional Tone and Range Matched Emotional Tone</p>	<p>Representational Play of Real Life Experience &/or Symbolic Play</p> <p>The child: - Responds to invitation from play partner to engage in representational or symbolic play OR - Initiates representational or symbolic play - Sustains Interaction - Adapt to other's ideas as they "join" or "piggy back" onto the child's ideas in the context of activity. - Expand activity - Adapt to others ideas as they "build on & expand" the play with new ideas in the context of activity. - Expands activity</p> <p>Emotional Tone and Range</p>	<p>Symbolic Play & Reality Play - a Flow with a Beginning, Middle & End/ Reflect on Motives/ Differentiate Between Real & Pretend</p> <p>The child: - Responds to invitation from play partner to engage in play with a logical flow. OR - Initiates play with a logical flow. - Sustains Interaction - Adapt to other's ideas as they "join" or "piggy back" onto the child's ideas in the context of activity. - Expand activity - Adapt to others ideas as they "build on & expand" the play with new ideas in the context of activity. - Expands activity</p> <p>Emotional Tone and Range</p>
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I - Co-Regulation & Shared Attention

II - Mutual Engagement

- **Responding & Initiating Joint Attention**

The child is *Responsive* to -

Gesture (eg, facial expression, sound, vocalization, body gesture) -> Gaze to the object of interest

&/or Verbal -> Gaze to the object of interest

-> change in tone indicating that something is going to happen

-> anticipation indication the child is predicting what is going to happen

-> Facial Gaze to the Play Partner Indication Shared Social Referencing with Shared Focus of Attention

The child *Initiates* shared attention with play partner to invite them to share attention around their focus of interest with an -

Alternating Gaze

Initiate Gesture (eg, facial expression, sound, vocalization, body gesture)

Initiate Verbal Cuing

Note the Emotional Tone and Range.

Social Interaction

Social Interaction is a continuous flow of both responding, initiating and responding of shared social referencing and shared attention through a full range of emotion.

As You Progress & Address Every Developmental Level

III - Intentionality - Affect to Intent
*IV - Behavioral Organization Sense of
Self*
Shared Problem Solving
V - Elaboration of Ideas
*VI - Building Bridges Between Ideas,
Emotional Thinking*

Focus on the Flow of the Interaction

The child:

- **Responds to the invitation to engage in activity**
- **Initiate activity**
- **Sustains interaction**
- **Adapts** to other's ideas as they "join" or "piggy back" onto the child's ideas in the context of activity.
- **Sustains** interaction
- **Expands** the activity
- **Adapt** to others ideas as they "build on and expand" the play with new ideas in the context of activity.
- **Sustains** interaction
- **Expands** the activity

Affect & Emotional Support for the Child to Attain & Sustain Developmental Capacity

Type of Affect/Emotion that supports the child is -

Visual - facial expression, body action to observe, position in child's line of vision, remain still so that you become a "visual anchor" for the child, position yourself 4-6 feet from the child so that they can see your whole body, use body action to convey emotion, simple drawing to convey actions or emotion

Auditory - low frequency, high frequency, prosody and rhythm

Gesture - Body movement - big, small, a touch, a point

Sensorimotor - Physical Movement in the Interaction – big movement, small movement, fast, slow, linear planes, side to side, rotation; **Touch** – firm touch; light touch; **Support Surface** – firm, soft, variable;

Pacing - fast, slow, variable

Language – simple words highlighting action; tone expecting a response; expressing your desires "I want", "I love", "I wonder"; clarification; language to clarify context; language to support comprehension; back and forth dialogue;

Emotional Tone - matched; down regulating; up regulating;

Emotional Range - happy; excited; confused; fear; sad; anger; jealousy; anxious; competition.

The Interactive Piece

- *Always interact with the goal to embrace the child's idea.*
- *Treat every action as purposeful.*
- *Build on the child's ideas by watching his actions and listening to his ideas and then with gesture and words try to stretch the idea.*
- *Embrace the child's learning style – is he visual, auditory, does he need demonstration or to be physically supported to facilitate success with his ideas and his actions. Build on the child's ideas*

- *Your goal is for the child to sustain a continuous flow of interaction - the type of affective and emotional support that you provide is determined by your understanding of the child's individual profile.*
- *With every action or interaction with the child use type affect, gesture and tone that is sensitive to the child and imparts to the child that you expect a response.*
- *Social Interaction is a continuous flow of both responding, initiating and responding of shared social referencing and shared attention through a full range of emotion.*

SOME PRINCIPLES FOR INTERACTION

Principles of Interaction in DIR®/Floortime

- Mobilize affect - the child's emotions, feelings and expression of emotional response.
- Look for intent- how do you know what the child has in mind?
- Facilitate enactment - how can you help the child do what he/she wants to do?

- Use the sensory environment to “woo” the child, entice him and foster ideas and imagination.
- Add a sound or action to the child's action so that your interaction makes his experience bigger and broader than he can achieve from solitary play.

- Focus on integrating engagement & affect into your interactions
- Support Shared Attention as the foundation for interaction
- Access Mirror Neurons and Associative Neurons (interconnectivity)
- Use your affect to enhance the child's ability to predict, anticipate and adapt.

- Treat all vocalisations with care... affective range influenced by different frequencies...
- Low Frequency voice can calm, while high frequency can be stimulating.
- Prosody can enable the child to tune to key words and emotional texture
- Pacing can set the rhythm of the interaction.
- Watch your own affect and note its effect on regulation.
- Be aware of the power of your gestures.

Rosemary White 2010
(Marie Caufield, SLP 2006)

- Take every action as intentional and purposeful.
- BUT - Do not take the child's ignoring as intent to "hurt" you - consider his individual differences

Stretch Every Interaction (Circles of Interaction)

- Be PLAYFULLY obstructive
- Make opening a cupboard take five minutes as you use gesture and affect to maintain the co-regulated interaction
- Throw "curve balls"

- Comment
- Question
- Break directions into fewer parts

AT THE SAME TIME

- Keep your language simple
- Ensure the children see what they hear
- Use a moderate rate of speech, sometimes slow rate
- 10-Second Rule allows child longer to respond
- Language is an auditory stimulus that moves through space - gesture and affect lasts longer and give meaning

WAIT !

Address the Physical Experience and Play in the Context of the Emotional Experience of the Child

- Acknowledge and reflect to increase awareness
- Acknowledge that the emotional experience gives meaning to the sensation
- Focus on process not product
- Functional use of language for the social context

- Clarify the child's intent through gesture, affect and language.
- Challenge the child's closure - through gesture (psst, finger wiggle) or words (are you finished?) In this way you are also supporting the child to have a completion of their plan without flight.

- Get into the spirit of the child's imagination
- Follow the child's lead embracing the full emotional range
- Avoid asking questions that require a "Yes" or "No" answer.
- Bring in choices, and if the child always uses the last choice then throw in a "curve" ball or decrease the language and increase affect and gesture around the engagement.

- Build on the child's ideas by listening to his ideas and then with gesture and words try to stretch the idea.
- Become the character BUT
 - avoid asking for permission for your character to play, such as, "Can I get in the car", rather
 - state what your character wants and desires, such as, " I want to get in the car, I love red cars!" or "I want a cup of tea it smells delicious!"

- Embrace the child's learning style – is he visual, auditory, does he need demonstration or to be physically supported to facilitate success with his ideas and his actions.
- Think not only of the sensory experience but also how the child is organizing this experience in the cortex. How can you use yourself and your interaction to support cross modal integration. For example, use auditory to make the visual information more meaningful.

- Challenge him to PREDICT what is going to happen – will the cushion go “down or up” when you get on it; “will the king attack from the ship or the land”, “how do you know” (projected action sequences)

- Challenge his choices “why do you want this red car?” when he says “I don’t know” -> “why not?”
- Challenge the child to convince you - “How are you going to convince me to give you an extra cookie?”

Always Think about the Emotional Experience

- Although you may want to move the drama along you also need to bring in emotional depth
 - nurturing and caring
 - child power (behavioral organization a sense of self)
 - partnership and power
 - adversaries
 - resolution
 - reality

ABOVE ALL HAVE

FUN

INTERACTING WITH YOUR

CHILD

My thanks to Stanley Greenspan, MD, and, Serena Wieder , Ph.D., & Georgia DeGangi, Ph.D., OTR in helping my work with children and their families.

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Most importantly my thanks to all parents and children with whom I have worked, as well as my own children, you have taught me more than anything in the world.

Rosemary

WEB SITES

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- www.celebratethechildren.org
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Rosemary White OTR/L (2007)