

Web-Based Radio Show

Working with Children with Visual Deficits

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Good morning. This is Dr. Greenspan welcoming you to our Web-Based Radio Show. Thank you for joining us today.

Today we are going to cover two very important topics that I mentioned last week: How to work with children who have visual deficits, and also how to work with children who have hearing deficits. First we'll talk about children with visual deficits.

Many infants and young children are born with varying degrees of visual difficulties, and some are unable to see other than shades of light and others can see just a little bit – vague or faint shapes, depending on the cause of the visual deficit. In today's discussion, we'll talk about the children with the more severe visual deficits, as opposed to children who have visual spatial processing problems or who have difficulties with certain types of pattern recognition or tracking or depth perception or other common challenges. The goal of today's discussion will be to show how we can help children with severe visual deficits, master the stages of functional emotional development, and master their different cognitive capacities, even though they have limitations in the information they can take in through one of their senses. Of particular interest will be to discuss how visual spatial thinking can be developed in a child with a severe visual deficit.

Over the years, we have had an opportunity to work with many wonderful children who are born, or who acquire early in life, a severe visual deficit. I've observed many different patterns, depending on how they were worked with by their educators or within their families. What we will try to discuss is how to support mastery of each of the functional emotional levels and each of the processing capacities, and we'll do it step-by-step, going through our stages of development, and show at each stage how we can help the child master that stage and master all the processing capacities with the visual deficit.

Let's begin with just the basic interest in the world. Ordinarily, this is an interest that occurs through all the sensory channels – sight, sound, touch, and smell. We see this with a newborn baby who turns towards mommy's sounds, looks at her shining, big



smile, and at the twinkle in her eyes. What about a baby who is unable to see? Well, we want to help that baby develop a sense of the spatial world, even though they are unable to see. When we go off to the left or the right and talk to our little baby in warm or inviting tones, and the baby looks and localizes where we are through sound, the baby is also constructing a visual map – not through sight – but through their sense of where things are in space.


Now also, if, with our newborn baby who can't yet reach, as the baby is turning toward the sound, we take the baby's little hand and put it by our mouth and he feels our mouth moving, he then can touch and "see" in a symbolic sense, not that he is forming a symbol but sense metaphorically, he can see where that sound is coming from. Not just by localizing the sound, but also by where he moves his hand and where he experiences the touch.

We can do similar things with smell. We can take interesting different smells like a lemon, put a little lemon juice on our hand and probably not for a newborn baby, but for a slightly older child can experience the smell or even taste, etc., etc., etc.

The idea is to begin with our primary component – the child's emotions or affects. Have him take an interest in the world outside himself. Then use all his senses together to make sense of that interest. In this case, it is a very simple little game of turning to the left or turning to the right or looking up or down to find where mommy's voice is coming from, but we combine it with touch and movement and maybe smell, and so forth. That way the baby begins constructing for themselves not just a picture of where sounds are, but they actually construct a spatial roadmap. They know where things are. It's just like using your sonar system through sound.

With an older child – a 15 or 16 month old who doesn't have this spatial roadmap, who doesn't seem to know where things are even though they've been negotiating the house or the room but don't seem adept at that, we would do the same kind of exercise but at the level of the motor skill of the 15 or 16 month old. We would play games where we move to the left or the right – a little "can you find me" game. We might make the child invested in the game by making it something special or fun. When he finds you he gets to put his hand by your mouth and he gets a big kiss on his hand, or you blow on his hand, or maybe he gets to share a treat with you that he enjoys. So the child is now motivated to use sound to create, again, a spatial roadmap, as well as motor actions.

As a baby goes to the second stage, and again for each of these stages we can think of it in terms of both what's occurring in a newborn baby, where we are working in a sense to prevent challenges from occurring in terms of spatial thinking or in terms of coordinating all the senses and mastering the emotional milestones. And we can think of




it in terms of how to help an older child master these capacities. So with the second stage, which is engagement, and investing with pleasurable affects – mommy or daddy or other caregivers. Here, vision is a very, very important part of that emotional investment. Seeing mommy’s beaming eyes, her joyful smile, her squished-up face – all of that enhances the joy of the 3 or 4 month old baby who is giving a beatific smile back. Typically, we will see a mommy or a daddy making wonderful, joyful sounds, big, big smiles, animated facial expressions, moving to the left and right, and we see this nice synchrony of warm affect that is being shared together.

Now, the baby who is not seeing, needs to experience that same warm affect and pleasure, but through the sounds and through touch and through the rhythmic movement. So here, what we want to do is accentuate the other sensory modalities so the child still has a picture of a joyful mommy beaming with a big smile at him. But, the picture is a multi-sensory picture – it is a picture of sound and smell and touch and movement. So here, for example, when mommy is giving him a big joyful smile and rhythmically talking, he is hearing her sounds. He is hearing the joy in her voice. We’ll often still see a beaming smile back. But since he can’t see mommy’s smile, again here too, the baby is beginning to be able to reach a little bit with his hands, but you’ll need to help him still for the 3 or 4 month old, and have his hands touch mommy’s face and touch her mouth and see the mouth and her big smile and getting a kiss on his hands, and maybe also touching her nose and her eyes. He is getting sense of all those little things that are making those pleasurable sounds for him. Again, as he is moving, he is localizing where mommy is because he is reaching to touch her face, even though you are helping him a little bit.

Also here too, there might be certain smells associated with mommy, that are different than associated with daddy, or associated with other caregivers. So the child, again, is creating a multi-sensory image of a loving caregiver, and falling in love, even though he is not seeing the object of his love in the formal sense, but he is seeing in the sense that all the senses create an image. So, he is creating a nice image through the other senses.


Then we go to our third stage, which is purposeful, two-way communication. Actually, go back to the second stage. Let’s say we have now an older child, a 2 ½ or 3 year old who has a severe visual impairment. Also, he happens to have features of autistic spectrum disorders. So he is self-absorbed and aimless. We’re trying to help that child become more connected and engaged with the world. Here, we use the same kind of exercise – trying to get into rhythmic, back-and-forth vocalizations, even just making silly sounds at each other. But then, having the child touch your mouth or touch your nose or eyes to see where those joyful sounds are coming from, to get connected through



multiple senses. Here, the child can usually control their muscles and their motor system pretty well, so that you can entice the child to want to touch your mouth or nose. Again, you can have a favorite textured toy that the child likes on top of your head and show the child where it is, then the child will kind of reach for it. Or have something in your mouth that the child wants and the child will touch your mouth as a way of getting it. That too, enhances movement and touch, along with smell, to create that visual spatial map of the loving other person in their life.

Now the third stage in our sequence is purposeful, two-way communication where the baby is intentional, where typically we see a baby making sounds back-and-forth and reaching for something in mommy's hand, taking it, handing it back. We get what we call back-and-forth, two-way, purposeful communication. One would think that this is particularly difficult for a child who doesn't have sight, because how would he know where to reach for the funny little rattle that mommy has in her hand, or how would he know how to reach for the funny little thing on top of her head, or to want to play with the necklace that she is holding up and dangling that he is always attracted to on her neck? Again, the baby is not seeing these objects, so we have to let the baby know they exist through touch. So, we may put them in his hand and then bring them back to our face. The object may be put in the baby's hand, then slowly moved to the top of our head, then the baby who is now purposeful is going to reach for it to get it back if he likes the texture of that object and likes the way it feels.


Again, we can use back-and-forth vocalizations, just in the same way we would with the child who had full sight, and the child would enjoy the back-and-forth babbling. We can connect up the babbling to the reaching by as the baby is successfully reaching for an object that they want that we have. We can direct him with our vocalizations. "It's here, it's here, here I am!" So as the baby, as he is localizing the sound, he is beginning to reach toward the sound, and he sees that when he reaches toward the sound he gets that little rattle that he wants, or gets that favorite little treat that he wants. So now the baby is very motivated to not just localize the sound, but reach toward the sound. In reaching toward the sound, he is being purposeful. Then we get two-way, purposeful communication. He takes something from us, we may then say, "Oh, can I have that back?" and touch his hand with our hand and open up our hand and say, "Give it back, back, back." If he doesn't, we may temporarily take it and then say, "Oh, here it is! Do you want it again?" Then we are on the other side of him and he has to turn and reach to the other side and he succeeds in getting it back. We have a little game going. This little game is combining vocalizations, with movement, with touch, and maybe with taste and smell as well if there is a little object a child can eat and enjoy as part of that. Again, this should be done with all kinds of objects – those that are just touched, versus those that are



eventually eaten, versus just sound games back-and-forth, so the child is exercising all their senses together, but also getting used to using each one individually as well. Here the key is back-and-forth, two-way communication - circles of communication, what we call co-regulated emotional signaling.

We also go for a range of emotion and a range of affect. If the child can't see our facial expressions to mirror his own affect in ours, but he can mirror his own affect and ours based on the subtlety in our voice and the animation in our voice. So we want to be especially playful and animated in the way we use our voice because remember, the child is processing the subtlety of the emotional expression – the joy, the surprise, the delight, the annoyance if he bites or scratches – he is processing that not just by facial expression because he can't really see the facial expressions, but by the sounds that go along with those facial expressions, so the sounds have to be extra animated. Although there too, at appropriate times, we can help the baby touch our face and say, “Ouch, that hurt!” and see if he can feel that that is a different facial expression and different tension of the face than when you are delighted, smiling, and happy. So through touch and sound and movement, the child can get a sense of the emotions of the other person in order to further fine-tune his own emotions as part of two-way emotional signaling.


Again, this same pattern works very well for an older child who doesn't yet have two-way emotional intentional signaling. So whether the child has autistic spectrum problems or just has a harder time in reading the emotional signals of others because of the visual deficit, this is a very good exercise to do with older children as well. Again, with a 2 or 3 year old or even a 4 year old, we would do the same kind of game, only at the level of the child's intellectual and emotional interests. So it might be with a different kind of toy, it might be with a different kind of food treat, it might be with now talking if it is a verbal child rather than just making sounds back-and-forth. But, the goal would be the same: two-way back-and-forth communication involving sounds or words, involving touch, involving movement, and creating games that will promote that. For example, the 4 year old might be interested in a little airplane and you might have that airplane flying and saying, “Where is it?” and your voice shows him where it is – it is within reach, and he reaches for it. Then he takes it, and you say, “Oops, it has to come back to me, I'm over here, it has to come back and land over here” and see if he can land it in your hand off to his left. That way, you're getting back-and-forth communication with his little toy airplane using verbal exchanges, and that's facilitating two-way communication, but it is also facilitating a spatial roadmap of two-way communication. There are different degrees of excitement, joy, pleasure, or annoyance – “Ouch, your airplane hurt the hangar and crash landed. Oops.” So the child is getting the full sense of emotional life through two-way communication and through using all his senses together.



Now the next level we get to, we call “Shared Social Problem Solving.” This typically occurs between 10-18 months, where we have many back-and-forth co-regulated emotional exchanges, now geared to solving problems like taking mommy by the hand and showing her where the toy is, then pointing so the child can climb up mommy’s body to get to that toy and reach for it. Here, we still want that same shared social problem solving. We want that sense of collaboration. We want the exchange of even more subtle and complex emotions. We want all the emotional themes of life, from dependency, closeness, assertiveness, exploration, and even anger expressed through 50, 60, 70 circles of back-and-forth emotional interaction. We want, as part of that, the child unifying all the senses. In this fourth stage of shared social problem solving, it’s where the child really gets to take his ability to put together all the information he’s getting, through sound, through sight (if the child is able to see), through touch, through smell, through movement – all together. This is helping him unify or integrate the different circuits of his brain.

So in the first year of life, many areas of the brain work as little isolated areas. By the second year, all the areas of the brain are forming connections with one another. The pre-frontal cortex is forming more, which is the part of the brain that helps unify the other parts of the brain, as are the connections between the lower levels of the brain and the cortical levels – the levels that have to do with high level symbolic thinking and language skills. So, we want to promote these connections. The way we promote these connections is getting the whole mental team working in teamwork, like a wonderful ballet or a wonderful basketball team where everyone is working together. So where sight, sound, touch, and smell are all orchestrated by the child’s emotional interest, all as part of back-and-forth two-way communication.


Now again, if the child is not able to see, one of those important channels is more difficult for the child, so we have to create even a richer array of experiences through the other channels. But, we have to also be mindful that we want to get that two-way back-and-forth problem solving interaction without sight. Now search games and peek-a-boo games and hide-and-go-seek games are such a staple of that second year of life, and even for older children who are mastering that, becomes more challenging for the caregivers or the educators or the therapists to find ways of promoting that without sight. So here, we want to come up with very innovative ideas for complex social interactions that solve problems, using all the other senses. But because the child is more competent usually and is walking around, we have opportunities to even do games that we normally would think of are out of reach of the child who can’t see. For example, we can play a game of “search” and “treasure hunt.” You might think you can’t do that with a child who is unable to see, but we can. So we might have a toy that makes a distinct sound. The game



is that we are going to find the toy that goes, “duck, duck, duck” or the music box. Or, daddy could be the toy, hiding, and daddy is making a funny sound. He is going “oop boo dee boo paa dup dub, you can’t find me, where am I?” Then mommy and little Tommy go searching around the room for daddy, trying to localize where he is by his sounds. So this is helping the baby develop his sonar to a higher level. He’s looking in three or four places until he finds where that sound is coming from.

In doing so, think what is happening. He is creating now, a map of the room, a spatial map, even though he is not seeing. But he is creating a spatial map because he is figuring out where the sounds are. So he has to figure out whether the sound is coming from the left part of the room or the right part of the room. Even though he doesn’t know the words “left” and “right” yet, but he’s moving to the left and to the right and moving forward and backwards. So, he’s getting a picture, but it is a “sound” picture of the room, just as fish who use sonar do, who have very good spatial awareness, through the sounds. But also, again he is going it through his movement patterns. He’s moving left; he’s moving right; he’s moving forward; he’s moving backwards. So his own movement is creating a picture. It is a movement picture of the room. I use the word “picture” here metaphorically.

When he touches daddy and finds daddy, that’s confirming where daddy is. The joyful emotion of discovering daddy, or discovering that daddy has the Cheerios or the M&M’s, or daddy has the airplane that he wants – is now further adding joy and pleasure to the discovery. In this way, and as mommy is his partner in finding daddy, they are exchanging lots of vocal signals and emotional gestures to “you’re close,” “Oh, now we’ve lost daddy, now we’re far away, we have to try to go to a different place, where can he be?” Now even if a child doesn’t have a lot of words yet, they can often understand simple words, and more importantly they understand intonation of voice, like “oh, oh, oh, yeah, yeah, yeah!” So they understand the affect clue and cue as he is getting hot or cold, even though they don’t understand the words “hot” or “cold” yet. So playing the “hot or cold” game with vocalizations, trying to find daddy or trying to find the toy that makes interesting noise that then will be a delight to play with – maybe it’s a vibrating toy that the child will enjoy touching, creates that multi-sensory, shared social problem solving experience where, as a part of the problem solving, you’re getting lots of back-and-forth interaction. Now if it is just the child and one parent, that parent who is hiding might be in a constant back-and-forth signaling, “nope you’re going farther away, I’m over here, here I am, uh oh” so the child may vocalize back and giggle and laugh and you’re getting back-and-forth emotional signaling while using sounds to localize, while using spatial relations, etc., etc., etc. So here we are getting a multi-sensory problem solving




experience that is wonderful for the child to have, and the child is developing spatial awareness and spatial problem solving.

Also, they are improving their motor skills and they are improving their vocal skills and language skills. They are also getting a lot of back-and-forth emotional signaling.

Now the same exercise – the treasure hunt game – can be played with a 3 or 4 year old. It's very important to do with a child who doesn't have sight. We don't want to rely, for a child who doesn't have sight, on simply teaching that child good verbal skills and eventually teaching that child to use Braille to read, because that will just develop the verbal language parts of the central nervous system. We want to teach that child to be a good spatial thinker, which would ordinarily require vision, but in this case we are doing it through all the other senses, and in that way we are getting the full development of the nervous system.

We are also helping the child, because of the back-and-forth interaction, learn to regulate their mood and their behavior through vocalizations and through touch and movement, without necessarily seeing the visual feedback of the other person's face.


Now one thing that is particularly challenging during this stage, is ordinarily the child is developing the ability to be close to mommy or daddy or other caregivers from far away. They do this by seeing your beaming, smiling face while they are playing with their toys, they look over at you, and they see you nodding with pride and delight, and they don't have to be in your lap. They can be independent, and yet have you nurturing and supporting them through what I call, "distal communication" as opposed to just sitting in your lap and touching you. This is important for helping a child become more independent and more self sufficient and retaining the closeness. In other words, they can begin carrying the security blanket inside them through what they see. But, they can also do it through what they hear. So with a child who is not seeing your smiling, beaming face or your nodding face, you have to be more animated and continuous in your vocalizations. If the child is playing nicely and practicing stacking his blocks and you are across the room looking at a magazine, depending on the child and the child's needs, if it is a child who is not very related, you want to be interacting all the time. If it is a child who is basically very related, you want to promote a little independence, then periodically say, "Boy, that looks great what you are stacking!" Be very animated. The child hears your voice and through your voice feels close to you. Periodically you can say, "Can you come over here and give mommy a little hug or kiss?" so he uses that motor system to know exactly where you are, gets the touch, gets the big hug and kiss, goes back to play with his blocks, hears your voice reassuring him, you're getting some



back-and-forth signaling through vocalization, so the child still has a sense of where you are in space, that you are there across the room. He still forms an image in his mind of you nodding approvingly of him, even though he is not seeing your nodding, smiling face. He is hearing it, sensing it, experiencing it through touch, etc.

So we have to be a little more vocal, even though it is good to be vocal all the time anyhow, but especially with a child who is not able to see what we are doing. So this helps the child “have his cake and eat it too” and still form that internal security blanket.

Now the next stage, we go to creating ideas. Ordinarily, we think of ideas as mostly verbal. If the child is now learning to speak, the child is doing pretend play with the toy animals, and with a child who is not able to see, we would imagine pretend play is harder. How do we get those little toys into the toy house? How do we give the little baby doll a ride in the baby car, and so forth and so on? Here, it is very important to use imagination and again, make sure that the symbols, the ideas that are forming, are not just verbal symbols but multi-sensory symbols. So make sure you are building towers and building little towns, and putting toys in cars and having the dollies speak to one another, even though the child is not seeing. So, how do we do that? How do we create that imaginative world and pretend play? This is for any age child. Again, if we are doing this as it is occurring, it’s around 18-30 months. But, if it is an older child who hasn’t mastered this, who isn’t very imaginative yet, and many children who have come to see me with a variety of challenges but including visual challenges may not have developed their imaginative play. So here, again it is very important to bring in the dollies. But, we will help the child touch the dollies and create a picture of the dollies face through the touch. We’ll tell the child through words, “I’m Mr. Grumpo” or some imaginative character that the child may have heard a story about that you have read to the child. Or, may have heard from a tape or a radio show or even from listening to a TV show or cartoon where you are describing the action occurring to the child. So, you can be a character, or you can be a little doggie or a little cat or some other funny animal. What you want to do is make sure the pretend play materials have lots of texture to them and lots of things the child can touch; easy to figure out through touch like big eyes, big nose, big mouth, and making funny sounds so the child enjoys the dialog. Then give the child his little dolly and help the child identify with his dolly, say, “Ok, I’m Mr. Grumpo and you’re little baby Wimpy” or whatever. “I say this. What do you say?” Give the child the idea. One parent can even be behind the child, modeling for the child how to talk through the dolly. So the child begins getting pretend play through touch and through sound. “My dolly is going for a ride in the car. Here it goes. I’m putting him towards you.” And then you ride the car towards him and then help the child touch the car and




he'll see that the dolly is in the car. "Can you put your dolly in your car? Oh, where is he going to go? Is he going to come to me? Where am I? Where am I?" The child will push the car towards you.

The idea is, again, to use touch, movement, sound, and words to create imaginative dramas that take into account space. But the space is negotiated through these other systems. If you don't think this can be fun for a child who can't see, I can tell you it can be delightful. We've had 5 and 6 year old children who are discovering the world of imagination and play for the first time, and they are thoroughly delighted. The parents, who haven't been doing it because they thought it would be hard for the child and frustrating, see the delight and the joy on the child's face as they get into interesting things.

The key is making the toys really interesting, making it have a lot of tactile qualities to it, and keeping the verbalizations and vocalizations very rich and animated. Sometimes it's hard for us as parents or caregivers or therapists, because we can't put ourselves quite in the child's shoes, because it's harder to empathize since we haven't had that challenge ourselves. So we can do a little exercise where we actually keep our eyes closed while we play with the child. We see if it can be fun for us to discover things through touch, sound, smell, and taste, and get into imaginative worlds that way. But sometimes we project onto the child more anguish or more frustration than the child actually feels, particularly a child who has had a visual deficit from the beginning of life, who has come to know the world through sound, touch, smell, and movement. That child may have heightened understanding of the world through the existing senses that we don't have, and we want to help the child develop that and develop pride in that.

So we have to be careful about projecting our own sense of what it would be like if we lost one of our senses, which would be very difficult because we have gotten used to it and depend on it. It is very different for a child who is coming into the world and we're giving him this rich, multi-sensory experience through all of his other senses.

Then as the child gets to the next stage, we're trying to connect ideas together; building blocks of thinking. Here, we can do a lot through verbal conversation, but also the child is learning to connect up the spatial world too. He is learning to have the car go from one house to another house, or to build the little town. Again, through touch we can have more complicated spatial support for our pretend dramas. There is a school, there is a house, and the school is here and the house is there. Where are the children going? Not only do we want to help the child answer "why" questions, but "Why does little Johnny want to go to school?" or "Why is Sally hungry?" But, have movement in spatial directions, so the child is connecting the logic of words with the logic of connections in




space. So, this ability to connect images together is occurring at all the different sensory channels – through words, through movement, the child who can now play an organized game, through the spatial designs involved in having a school, a house, and a car going back-and-forth between the two of them.

Again, all of this seems much harder when the child is not seeing – how do you create this spatial world that is now more connected and more intricate? How do you create higher level spatial concepts, like for quantity concepts for the child who is learning “more” and “less?” It’s easy when a child can see the difference between five and two. But how do you create that for a child who can’t? Again, through touch and through movement. The child can touch the two blocks versus the five blocks. He’s moving his hands. There is a longer movement pattern when you are touching five blocks than when you are touching two blocks. So a sense of quantity, “Do you want two cookies or five cookies?” You have the child touch each cookie and spread them along the table. Spread his hand out. The child is creating now a picture in their mind, again a metaphorical picture, of what five cookies look like versus two, and they are certainly enjoying it when they get to eat all five or three (if five is too many).

So we want to introduce concepts of quantity, concepts of connections of one part of space to another part of space, as well as lots of verbal dialogs with “where” questions, “who” questions, and “why” questions to help the child connect ideas together. We do that in pretend play and in logical conversation as well.


Now in doing this, we should be mindful that as we go to higher levels of thinking, what we call multi-causal thinking where the child gives many reasons for something, and then gray area thinking where the child can tell you the degrees to which one reason is important versus another like if there are three reasons why I want to go outside, what is the most important, what is the second most important, and what is the third most important. Or in school, if you are comparing the Civil War and Revolutionary War, which were the most important reason for each and why, and so forth and so on. So as we do that, we want to be mindful, again, of doing it in all domains of the child’s life, and do it with spatial thinking as well as verbal thinking. So if we are doing shades of gray, for example, more or less, asking the child to compare two things and why A is better than B and how much better is it? We can do that verbally, obviously, like why do you like to play with Johnny rather than Susie, and how much more? But we can also do it with spatial concepts like, “How much applesauce do you want – a big bowl or a little bowl? And which bowl?” Give the child three bowls and they can touch them and feel the difference in size and tell you which is the bowl they want for their applesauce for today. That wouldn’t be something that we would routinely do, but when you are doing it with applesauce or you do it with something that the child cares about,



the child is really investing size and dimensions of quantity with their emotional interests. They are not just memorizing math facts, but they actually have a sense of how numbers and how systems of quantities work. That is just one example of spatial thinking.

On the larger front, there is something called “Big Picture Thinking.” Some children get lost in the trees and some children can see the whole forest. Again, visual spatial reasoning is part of big picture thinking – seeing the whole; seeing the big concept. Again, we can promote that by always helping our children as they get to be typically between ages 4 and 9, as they are going through the stages of multi-causal thinking and gray area thinking, and eventually learning to evaluate their own thoughts – stages we’ve talked about at other times. As you are doing this, we want to always keep our eye on helping the child be a big picture thinker. Be a reflective thinker. So, we want to, if the child is for example, talking about experience A and experience B, we might focus more than ordinarily on “how does that go together?” Or, “How does all of this make sense?” So, the child is having a bad day and telling you that the teacher was mean and this child was mean, and you say, “Gee, how would you add all that up? What would you say your day was like today overall?” “Well, overall I would say it’s a bad, bad day, mommy.” Or, the child is telling you about good experiences, or some good experiences and bad experiences. You can say, “How would you add all that up?” and the child might say, “Well, it was a mixed day. Some good and some bad.” Again, that simple statement “adding it all up” helps the child now put the pieces together into a larger hole and become a big picture thinker. So, it’s very important to stress big picture thinking and to continue, as you go through the higher levels, to help the child’s world be a multi-sensory world. So as the child is using Braille to read, let’s say, or listening to books on tapes, don’t lose sight of the importance of helping the child continue to develop their motor skills and their spatial problem solving skills through touch so that the spatial world and the motor world are continuing to develop. So with children who have visual deficits, it’s especially important to work on basic things that they might not do as naturally because of the visual deficit, such as balance, coordination, left/right integration – using the left and right sides of the body together. As I mentioned, doing any spatial problem solving games. There is no reason why children can’t learn to play chess through touch, for example, or checkers, by having touching and special boards where they can picture the board metaphorically through their touch and movement.

There are a lot of little spatial games you can figure out that are now on the market that are fun to do that can be part of nice, interactions. So the theme is one of helping the child use all their senses and their motor system and all under the guidance of their emotions and affects to master each of the functional emotional developmental capacities. That can be done in a variety of different ways. I’ve given you a few



examples and a quick overview. But we have seen children who have severe challenges with sight, master the emotional milestones, be very, very successful in learning logical and reflective thinking, and also developing very good spatial awareness of their world through the type of exercises that we're talking about here.

Now we have some questions and it looks to me like next time we'll talk about children with hearing deficits because it looks like we'll be taking some questions for the next few minutes. So the second part of our agenda of talking about children with hearing deficits, we'll probably leave for our next discussion.

Ok, let's take this phone call. Hold on just one second.

SG: Hello?

Caller: Hi Dr. Greenspan.


SG: Yes.

Caller: Hi, I have a couple of questions.

SG: Sure, go ahead.

Caller: My first question is that I have read that the Floortime Approach works for a "subgroup" of children. Could you define that subgroup that what makes these children different than others?

SG: Well, what we call the DIR Floortime Approach, and the question is, for those who couldn't hear it, is "Does it work better for a subgroup of children than other children, and could we define that subgroup." The answer to the question is that what we call the DIR Floortime Approach, which is an approach which works on building the fundamentals of relating, communicating, and thinking, and doing that by tailoring the interactions to the child's ways of taking in and processing information, and meeting the child at the functional emotional level that they are, then creating learning interactions that promote higher and higher levels. With children, for example, with autistic spectrum disorders, it means working on the core deficits of relating, communicating, and thinking, not simply the surface problems or the surface behaviors. When you do that, you get improvements in both areas. What we found is in our review of 200 cases systematically, but also our clinical experience over the years and in other studies now that we have just completed including a long-term 10 and 15 year follow-up study, we found that all the children we worked with made improvements in the areas that are commonly thought of as core deficits and autism, such as learning to engage, read and respond reciprocally to




emotional signals, and use language meaningfully rather than in a scripted way. We found that all the children made progress in these areas. That's what we are pleased to see. So, for example, even with children with the most severe neurological problems, who tend to be involved in very aimless behaviors or self-stimulatory behavior or even self-injurious behavior much of the time, we can help those children become warmly engaged, interactive, and many begin using some words and phrases, even though we don't get the highest language levels we would like to achieve, we're still working and always trying to make forward progress. So we pretty much, for all the children, we are able to get them on a pattern where they more joyfully relate to the world, they are more purposeful in their communications, and for many, they are beginning to expand their use of words a little bit.

But, there is a subgroup of children who have especially good prognoses. These children, when we first see them, they show lots of special strengths. This subgroup of children, with this type of approach, which works off their natural interests and helps them master the fundamentals of relating, thinking, and communicating, tend to achieve high levels of language development, high levels of creative and reflective thinking, and high levels of social skills. We've now had a chance to follow up on many of these children into adolescence, 10-15 years after we initially saw them, and they are continuing their progress. So now we have children who are in regular schools, who are having nice friendship patterns, some of them are academic leaders, others are just average students academically but with nice friendship patterns. Many of them are more empathetic, understanding, and read other people's emotions better than their peers do because they have had so much work with sensitive, empathetic caregivers. We were surprised at how well this subgroup of children did. They, in a sense, went beyond our expectations. So they are not "high functioning autism" or not Asperger's, they are actually simply warm, engaged, sweet, empathetic, creative, reflective children. On the follow up studies, we have many videotapes now and many verbatim transcripts of discussions of their latest interests and hobbies and friendship patterns, etc., and it's a delight to hear.

Because not all children achieved this level in our original sample of 200 kids, so about half the children who achieved this high level, but that's not a representative population. These were children who came to see us with highly motivated families, and didn't represent what might be seen in a normal population. So we don't know how large this subgroup is in the normal population, but we know it is a sizable group because we have over a couple hundred that we have been following who meet these characteristics.

What identifies this subgroup of kids who do so well, is their profile when we see them, but more importantly it's their progress we see. What I always tell parents is that




no matter what the child's presenting picture, the key thing to look for is the child's learning curve over the next few years when we have an optimal program cooking. Until we get an optimal program, we don't know what can be possible for that child. What we see in the children who do very well is that they begin moving into continuous flow of back-and-forth communication rather rapidly. So we can get them more engaged and into continuous 50+ circles within the first year. Then if language comes in, it comes in creatively and often we'll begin seeing a burst of language as we get more interaction and more relatedness and more emotional signaling going. When we see that kind of a learning curve, then we expect to see this sort of pattern I'm describing – this subgroup that does exceedingly well. But, what I want to emphasize is that all the kids do better than we formerly thought children could do. Even ones with the most severe neurological problems are doing better than we had thought they could have done years ago. Ok, do you have another question?

Caller: Are there children for whom this won't work at all?

SG: The other question is, "Are there other children for whom this won't work at all?" The DIR Floortime Approach, basically is a model of analysis where we figure out where the child is in terms of their level of relating, communicating, and thinking – what we call the functional emotional milestones. How will they engage? How will they exchange emotional signals? How will they use ideas? We also figure out how their processing is working. Are they stronger with hearing or seeing? Are they over reactive or under reactive to touch? We also figure out what kind of learning interactions will work for them, both in school settings, at home, and in different therapies. So as a method of analysis, it's not a "one size fits all" approach. It's not an approach where either it works or it doesn't work. In other words, we adapt the method to the child. For some children, we need more structure. We developed a language curriculum called The Affect Based Language Curriculum (ABLC), which goes from very structured approaches into more spontaneous learning of language, depending on where the child is. The same thing with the application of occupational therapy principles – some children who are very sensory craving and active require particular sensory support in order to slow down and modulate.

The nature of this approach is that we continually work to discover what is going to work for a child. We never give up on a child no matter how hard the child's challenges are. We're always struggling to find better and better ways. The approach, being a method of analysis that looks at all parts of the nervous system, enables us to constantly brainstorm. When we can't figure it out, we bring in colleagues from the different areas to help us. So, for example, there's a group of children who have severe oral/motor problems. These are children who have difficulty because of their oral/motor



problems, with learning to speak and learning to use the muscles of their mouth and tongue in order to make the sounds and words. Some of these children, we've worked with helping them learn to type so that they can communicate through actual typing. Others use different symbol systems – picture symbols. But that gets incorporated into the DIR Floortime Approach. In other words, the approach is a method of analysis that will use any technique that can be helpful for a child to help them over their specific challenges, but keeps it's eye on the broad goals promoting relating, communicating, and thinking. So in that sense, when we ask if there's any child this won't work for, this is not an all-or-nothing phenomenon. Our method of analysis can be helpful to all children. Children's progress will vary depending on the following:

- The way their nervous system is organized,
- The way we help their environment including their family, educational system, and therapists mobilize a program for them,
- And in terms of our continually learning new and better ways to work with the child's unique nervous system.

The DIR Model, in essence, is a broad model that allows us to look at all facets together. So that's a complex answer to a good question. The answer to the question, "Who does this approach work for?" As a method of analysis, it can be helpful for all children.


Caller: Here's my last question. Is there an age where children become too old to benefit from this approach?

SG: Ok, the question is, "Is there an age at which children are too old to benefit from the program?" We've worked with 45 year old gentlemen and ladies and we've worked with 4 month old babies, and even 3 month old babies. So, again, as a model, as a method of analysis, it can work and be helpful at any age. But again, the younger, the better. Sometimes we have a teenager who has milder challenges and we get that teenager switched over from patterns of negativism or even self-injurious behavior to interactive, collaborative kinds of behavior and interactions. So it's not the age that's the only factor, it's also the relative strengths the child has and the relative degree of challenges the child has.

Caller: Those are my questions. Thank you very much, Dr. Greenspan.

SG: Thank you for three very, very good questions, and I hope these answers were helpful.

Caller: Thank you.




We have a few minutes left and I don't want to get into our next topic, which is going to be how to work with children who have hearing deficits. But, I do want to use the last few minutes to simply summarize what we have talked about today in terms of general principles and coming back to our main point about working with children with visual deficits. I'll state some general principles about working with children who have deficits in any part of their central nervous system, or example, a child with a motor deficit, a child with cerebral palsy, or a child with a deficit in elements of touch. Some children have a harder time with experiencing sensations through touch. Whether it's a deficit in visual, auditory, motor, touch, smell, or taste, the child's sensory equipment is the way in which the child engages the world; the way in which the child learns about the world; the way in which the child constructs an understanding of the world. Our job is to help that child have as full an understanding of the world through the available sensory equipment, and to work around sensory pathways that, for biological reasons, may not work as well as we would like them to. So whether it is a mild processing problem or a basic inability to take in sensations through that particular sensory channel, the principles are the same:

1. Strengthen that channel as much as it is humanly possible given the known medical and biological insights
2. Use the other sensory channels to create the awareness and the understanding of the world that ordinarily would occur through that channel
3. Get all the sensory channels working together as a team
4. Get them working as a team to master each of our functional emotional developmental capacities. That is, for attending to the world and regulating, for engaging with the world with warmth and joy, for two-way emotional signaling with the world and purposeful communication, for shared social problem solving, for using ideas creatively, and for using ideas logically and meaningfully, and then for getting to higher levels of reflective thinking including multi-causal thinking, gray area and comparative thinking, and then thinking off an internal standard (thinking about your own thoughts and evaluating your own thoughts).

So that is our general way of approaching these challenges. Within those general principles lies an infinite number of possibilities.

Next week we will not have a show, but we will have a show the week after. So next week we'll have off, just simply because I have to be away. So our next show will be in two weeks. Those of you who tune in regularly, next week can be a catch-up week for shows you've missed. All the shows are archived, so we'll label next week "Catch-up Week" and you can look at one of the archived shows. In two weeks we'll talk about working with children with hearing impairments, special strategies for both families and



clinicians. That will be our show for two weeks from now. Thank you for joining us, and we'll be hearing from you and in communication with you in two weeks. Bye bye.