

## **Web-Based Radio Show**

### **Series on Learning Differences, Learning Challenges, and Learning Strengths:**


#### ***The DIR®/Floortime™ Model***

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Good morning. This is Dr. Greenspan welcoming you to our web-based radio show. This is actually our first show of the New Year of 2006. Last week we ran into some technical difficulties to try to welcome in the New Year, but we're finally welcoming it properly this week. I want to greet you all and wish you all a happy and healthy new year and hope your new year is starting off well and that you're eager and ready to participate in our web-based broadcast.


Today's subject is going to focus on our model – what we call our DIR®/Floortime™ model – but, basically, it's our developmental way of looking at learning challenges and learning disorders or learning disabilities or learning difficulties and we're going to think about this in a different way than you've typically been alerted to conceptualize learning challenges or learning, in general. We're going to come at this from a very novel and hopefully you'll find innovative way. When we look at human development and learning we can talk about three groups: children with learning disabilities – clear-cut learning challenges like severe difficulty with learning to read or learning to do math or learning to write or learning to problem-solve in terms of sequencing and planning and carrying out some kind of organizational plan; or we can talk about learning differences – children who don't have these problems, but have their own unique way of learning. They're often described as requiring an ABC approach to learning rather than an EFG approach. Then, there's a third group that often we don't talk about very much, children with learning strengths, where the challenge here is to not to help them over a hurdle, but to help them use their strengths in a constructive and cohesive way, rather than just in an isolated way. So today we're going to talk about learning disabilities (or learning challenges), learning differences, and learning strengths. We're going to use our DIR®/Floortime™ model as a framework to talk about these.



Now, rather than getting into the abstract or the theory side of this – let me give you three examples to start off with, each of a child, one with learning challenges or learning disabilities, one with learning differences, and one with learning strengths. The three children will provide us with a context or a set of illustrations from which we can then generalize and from which we can then talk about how to understand children with learning challenges, learning differences, and learning strengths.

The first child, an 11-year old girl named Sally who came to see me with a history of having had severe problems in learning to read. When I saw her and she read for me, she was still – even though she was 11 years old and in the 5<sup>th</sup> grade –reading very haltingly and having trouble sounding out certain words. Her retention was poor because she was reading haltingly and was quite nervous (she couldn't always figure out the sounds that made up the word for particularly difficult, three-syllable words), and as a result she would sometimes lose grasp of the facts or details she was reading. She also had a little harder time comprehending when the teacher asked her, “Well, what is the author getting at?” or “What’s the theme here?” So when she was reading from *Huckleberry Finn*, Mark Twain’s famous book, and she was reading that for me and reading it for school, too, she had a very hard time with the kind of accents that characterized the dialog in *Huckleberry Finn*.


As I got to know Sally better and talked with her and her parents, reviewed her background and history, and in chats with her teachers in reviewing her school performance, a much more complex picture emerged. This complex picture often emerges – I would say 90% of the time with children with “recognized learning challenges or learning difficulties or learning disabilities” – in her case the diagnosis was a developmental reading disorder. Here’s what emerged: She also tended to be very, very challenged by reading the subtle nuances in people’s feelings and emotions, so she often had a socially hard time knowing when someone was teasing her or when someone was serious when she was out on the playground with her friends. She had some good warm friendships and had two girls, actually, that she was very, very close friends and with whom she had sleepovers with frequently, and they were real buddies. But with what she described as the “cool kids” in the class, she couldn’t tell when they were putting her down, when they were just joking or when they were being warm. She was smart enough to know that she had a hard time with that and it confused her. She often described to me that she assumed that people didn’t like her, only to discover later – because of some third party telling her – that so-and-so *did* like her.



When we look at this more closely, it turned out that part of her difficulty was that when she heard things coming in – in another words, when she took in sounds and took in words – she didn’t distinguish very easily the subtleties in what she was hearing. In other words, to figure out if someone’s teasing or someone’s just being mean-spirited requires a good ear, just like listening to music – it could be just the slightest difference in their tone of voice will give you your clue. Well, she had a hard time with that – with that part of “auditory processing” or that part of listening. Similarly, she had a hard time when teachers gave her complex directions with many, many different steps. She had a hard time holding all the steps in mind and figuring out what came first, so she would frequently get confused, as she was telling me – and also her teachers confirmed – whether you do A, then B, then C or whether you do C, then B, then D, then A – whether it was a math problem or whether it was a homework assignment – and so she was constantly feeling confused. What she would do when she got confused, either in a social situation because she couldn’t distinguish that subtlety in the tone of voice, or if it was in a social situation whether it was a situation of following directions, when she would get confused she would tend to get very nervous and doubt herself and get down on herself and think she was – as she put it – “D – U – M – B – dumb.” Then she would get preoccupied with being “dumb” and that would take her eye off the ball so she wouldn’t listen closely to what the other child was saying to figure out if she was teasing or being mean, or she wouldn’t listen further to the teacher to get some clarification on the directions or raise her hand to get the teacher to repeat what she was saying because she would become scared that everyone would then know she was dumb!

So she would kind of retreat and become preoccupied and get down on herself and then feel kind of sad. Fortunately, she had a very warm, loving mom and a very compassionate dad and she could talk to them about that and they would reassure her that she was a smart little girl. Unfortunately, she had a younger brother who told her she was a “dummy” all the time and called her names and teased her, but that, actually, she took in stride because she knew deep-down “he loved me anyhow.”


It’s an interesting question to ask, Was there was a connection between her reading difficulty and her difficulty with distinguishing – or we sometimes call it “discriminating” – different sounds or following sequences of different verbal information, like when a teacher was telling her to do things? Well, in her case and, as is often the case, there is a clear connection because one of the basics for learning to read skillfully and sounding out new words or reading phonemically, as opposed to just memorizing a whole bunch of words, which some children with great memories do, is



that you have to connect the sound – that “buh” sound to that visual image that has a “b” but to know what a “buh” sound is you have to hear the “buh” to know the difference the “buh” and the “duh” and “guh” and the “huh.” So if you have a “tin ear,” which I confess I have, you’re going to be like me and like little Sally and have a hard time learning to read, which I had a hard time learning to read and am still to this day a slow, kind of a methodical reader because no one knew to even look for that kind of problem when I was a little kid, so I didn’t get help when I was little; it had its compensations because I turned out to be a very deliberate thinker and methodical reader – slow and deep, rather than quick – so it had some advantages, as well, but in today’s world I think I could have become a faster reader and maybe without losing my ability to think, as well.

For little Sally, she had a hard time, as we reconstructed her past, and she hadn’t gotten help at the time with learning to listen and discriminate sounds better so she could connect the sounds to the visual images; that’s why it was so hard for her to sound out complicated words. She couldn’t discriminate sounds well and related to that was also part of her auditory processing, which is a fancy way of just saying the inflow of sounds and words, it was hard for her to sequence many sounds in a row and hold in mind three or four-step sequences. So she had two problems on the inflow side, in terms of auditory and verbal information. This was affecting her social skills, too, particularly in large groups like out on the playground or at a party or in a complex social situation with lots of peers she wasn’t familiar with. In those situations she had to process lots of verbal input very quickly and that’s when she would get anxious and confused and then get down on herself that she was “dumb” and think people were making fun of her, etc., etc. As I mentioned to you, fortunately she could recover because she could go home and cry on her mother’s shoulder and get some reassurance so she didn’t get real sad or real depressed, as some children do who don’t have a supportive home life.


Now, on the other side of the equation, as we got to know Sally very, very well, I was interested in looking at her other skills. Fortunately, she had some strong skills in her fine motor capacities. For example, she had beautiful penmanship and was a very good artist and loved to draw and, also, had some good visual skills in terms of being able to see the forest for the trees. So she knew how to go places, for example, she knew her neighborhood well, could describe where Philadelphia was in relationship to New York and Washington, where she was from, et cetera. That helped her also compensate because she knew where she was in the world. On the other hand, her



gross motor skills – physical coordination – were not very well developed so she was not a great dancer or a great athlete and had trouble doing things like standing on a balance beam on one leg and holding a position when she closed her eyes, and got confused sometimes between the left and right sides of her body. So there were some difficulties with her awareness of her body and her control and regulation of her body, even though she had some nice fine motor skills in terms of penmanship and in terms of being a good artist. Also, she didn't have a very good sense of rhythm and music so just like she had a "tin ear" when it came to reading she also had a "tin ear" when it came to music. While she liked some of the modern songs and had her favorites, she was trying to learn piano and was having a darn hard time with it; I suggested to Mom that they make the music fun, not rigorous training as they were trying to do and teach her classical music and, also, to use the music just to help her discriminate sounds better because music, again, is sounds, and to make it fun and have her produce sounds and listen to sounds and be a better sound-maker and sound-producer.

Now, the other thing we looked at very closely with Sally, as we do with all children, is her level of thinking and her level of social and emotional functioning because we want to know if their specific learning disability or challenge or difficulty, in this case, is either being affected by or influencing their overall level of thinking or whether it's affected by or is influencing their social and emotional functioning. As you know from prior discussions we have a way of looking at intellectual thinking and social and emotional functioning in terms of a group of stages, starting with regulation and interest in the world, engagement, in reading nonverbal cues and problem-solving and sequencing and using ideas creatively and logically and then getting into multi-causal thinking and gray area thinking and by age eleven we're expecting kids to be able to think off an internal standard, to be reflective, and be able to say things like, "Gee, I'm happier than I normally am in this situation" or "I can't figure out why I'm so angry; it's not my normal way of being in this situation" or "I agree with Mark Twain, but disagree with Tolstoy."


So, we wanted to see where Sally was on this continuum and here she showed some strength. She could do some reflective thinking off an internal standard, which was age-expected, because she was able, for example, to come home and talk to her mom and say, "I don't know whether the girls were teasing me or whether they were really just being mean and if it was friendly teasing or mean teasing and I get confused in that situation." That may seem like she was confused and didn't have a good reflective ability but, in fact, her ability to not simply act on one or the other assumption



– so, not saying, “They’re all mean and they hate me” or “Oh, they’re all my friends and they like me and they’re never mean,” which would be an all or nothing, kind of more polarized way of looking at the world – she was actually able to say, “Gee, it could be a little bit of both and I’m confused” and able to be reflective about it and able to say, “I’m a person who gets confused in these situations.” So, that’s a reflective statement – you’re assessing yourself. It’s like saying, “Gee, I’m a person who handles anger well” or “I’m a person who doesn’t handle anger well.” That self-reflection it is very revealing and very compelling. That’s a very, very good example of a child who’s reached that level 9 we call the reflective level of dealing with feelings and dealing with material.

At the same time, however, we saw that when she got anxious or unsure of herself, like not following directions in school because she couldn’t quite sequence – and I should add this also came out in her ability to write essays – she had a hard time staying on subject – she tended to wander and free-associate, rather than be cohesive. So if she was writing an essay about, for example, why she liked *Huckleberry Finn* better than *Tom Sawyer* as a book, which she actually did – she recognized it was just a more complex description of people and appreciated the richer story in *Huckleberry Finn* and she would wander off and talk about *Huckleberry Finn* but stop comparing it to *Tom Sawyer* and didn’t make her point. She may have started off making her point in the opening paragraph, “I like *Huckleberry Finn* better than *Tom Sawyer* and I have four reasons” and then she kind of got lost in just talking about *Huckleberry Finn* and not go back to talking about Tom Sawyer and not go back to talking about her four reasons and kind of drift a little bit. So she may have talked about Huck Finn and his fun playing with his friend and some of the travels they did along the river, and there would actually be a very rich narrative about elements of the book, but she’d wander all over the place and her teachers were trying to get her to be more organized there, too, not just in following directions, as well.

So, what we would see is – coming back to our main point, so we don’t wander – is that when she would get down on herself and feel bad and feel like she was dumb, even though she wouldn’t hold on to that as a fixed belief, she would withdraw from taking in new information and then she would, in a sense, regress or lose that reflective level and not even be a good – what we call – “gray area thinker” where she could see subtleties or shades of gray, but she would get a little bit lost in the “all or nothing” thinking. So, if you think of how once a child learns to attend and engage and interact with gestures, and sequence and problem-solve a little bit, and use some ideas creatively, do make believe play and then be a little bit logical, like answering “why”




questions, then we get into what we call “multi-causal thinking,” whether it’s about their feelings or the real world – so they can give you many reasons for something. Then, they do gray area thinking where they can tell you about shades of gray: “Well, there were three reasons for the Civil War, and this is the most important, this was the second most important . . .” Then they get into reflective thinking where they can tell you why they thought the Civil War was more important than the Revolutionary War because, in their view, etc.

Now, when a child regresses into “all or nothing” thinking they’re then back to that basic causal thinking – they’re not even giving you many reasons for something, they’re giving you one reason for something. “Well, people don’t like me because I’m dumb” or “I can’t read because I’m dumb” and while she didn’t quite believe this 100% and her mother could always reassure her and she would feel better after a while, she would kind of get lost in this “all or none thinking” a little bit. So she would regress when she would get anxious and a little unsure of herself and we’d see her go from the reflective thinking, lose that, lose the gray area thinking, lose even the multi-causal thinking, and get lost in the all-or-nothing kind of thinking. She stayed logical and she’d say, “I’m dumb because I couldn’t read as fast as so-and-so” or “I’m dumb because I got a C on my exam,” or “My teacher wrote this comment on my essay.”

So, basically we have a picture here of a little girl who had trouble reading, had trouble following directions, sequencing verbal information, who had some relative strengths in her ability to draw, to understand what she saw – to take in sights, was a good geographer, in a sense, and even a good architect, and who had some nice fine motor skills, but had weakness in her motor planning and gross motor skills doing motor complicated game steps or athletic things, and had a weak sense of her body in space. She was fundamentally bright and intelligent and actually socially adept in the sense that she could have good friendships, but had trouble with reading the subtleties of emotional communication and when she got unsure of herself and anxious or depressed, she would regress and lose that intelligence when it came to her emotional and social functioning. It even affected her intellectual functioning because she would take her eye off the ball instead of focusing on directions or reminding herself about the task while she would get lost in her own preoccupation about “feeling dumb” and, therefore, would get further and further lost intellectually.


So what do we have here? We have a rather complex picture of a complicated little girl. Now, is this pretty characteristic of children with learning disabilities or am I throwing you a curve ball by giving you a more complex example? In other words, are



most kids with learning challenges or learning disabilities or difficulties – are most children like Sally, where it’s actually a complex picture? Or do they fit some textbook definition of just having difficulty with matching letters to sounds or in reading and otherwise have no other challenges? Well, in my experience the children with learning challenges or learning disabilities are very much like Sally. They don’t all have the same profile – each one has a different set of problems and a different set of challenges and a different profile – but they’re like her in the sense that all human beings are complex and they all have relative strengths and relative weaknesses. Before we help Sally, we have to understand her relative strengths and relative challenges in *all* the areas, not just the one that presents as the “tip of the iceberg” – the one that’s on top of the surface – because that would be only helping her a little bit and might not be helping her at all – it’s kind of like treating a pimple on your skin but missing the infection you have in your bloodstream. It might not be helping you at all.


So, we need to have a way of looking at our children with learning challenges or learning disabilities that helps us understand children like Sally. So, here’s the systematic way of doing that. We’re going to be talking more about that in some of the subsequent shows, but today we’ll go over it just briefly to give you an overview and then we’re going to apply this to a child with a learning difference and then to a child with a learning strength so you’ll see how we apply the same model, but I think we have enough of an illustration here to present our theory now.

The basic model is the metaphor of a learning tree. Picture a tree where we have some roots, we have a tree trunk, and we have branches. Now, our branches are the different kind of learning challenges or learning disabilities that children can have. So, the branches can be the very tip of the iceberg – they represent at school as the problem that’s easy to recognize, that’s easy to see. In the learning branches they may have a reading problem or math problem or they may have an oral or written expression problem, i.e., writing or talking, and as part of that they may have difficulty organizing an essay. There’s another branch we may have that we call an organizational problem or executive functioning problem – difficulty with carrying out sequences, carrying complex problem solving, such as getting your homework done, planning effectively for when you’re going to do your homework, planning how to study for the exam, etc., versus forgetting you had the exam, forgetting to bring home the homework, forgetting to hand it in even if you’ve done it, and so forth and so on. So you can have those areas: reading, writing, math, oral expression, and organizational or executive functioning problems.



The tree trunk – what’s the tree trunk that gives rise to the branches? Well, in this model, in this metaphor we’re using, the tree trunk will be our levels of intellectual (thinking), emotional, and social functioning. Remember, I reviewed nine levels just a moment ago. We technically call them our “functional emotional and developmental capacities” (FEDC), but you don’t have to worry about that. Just think of these as the levels of emotional, social, and thinking or intellectual functioning that are important because they’re the heart of our functioning. That’s our tree trunk. One of the roots helps that tree trunk grow and then leads to the thick, sturdy branches – or at least the branches in terms of reading, writing, or math – that have trouble. Our root system has to deal with our different “processing abilities” – it’s a technical term but it means – to put it in very simple terms – it means how we take in information, how we digest that information or comprehend it, and then how we give it back – how we communicate it back. We break that down into different kind of roots: how we take in sounds and words – what we call “or auditory processing” or “auditory and language processing” and how we then give out sounds and words – how we talk – that’s our auditory processing and language function. We have another root, which is what we call “visual spatial processing” or “visual-spatial thinking.” This is very simply how we take in the sights – how we organize – because it’s not the same for everyone. Some of us get lost on our way to the grocery store or on the way to Boston, and others can navigate new roads and new highways and new locations easily and have a very good sense of where they are in terms of physical space. Some of us track words on a page easily; others have to learn how to move our eyes across the page. Some of us have a great eye for color and detail and appreciate art and architecture, and others of us have to really learn that skill. So, we all differ quite a bit on our visual processing and our visual problem-solving. Some of us, for example, can see a block design and if someone says, “Okay, do a mirror image” they can do it easily; others of us, including myself, will have a hard time with flipping that set of blocks to its mirror image. A colleague of mine, Harry Wachs, has outlined stages what he characterizes as visual-spatial thinking in his book, *Thinking Goes to School*, and in his conceptual development program here in Washington. So all of us differ in our visual-spatial processing or thinking capacities from simple things like tracking and just following objects in space and catching a ball, to complicated things like the being a good architect, being able to flip something over to its mirror image and picturing in our minds how it looks.

We also have what we call “motor planning and sequencing” – our ability to plan and sequence our actions. Some of us can carry out a three-step action plan and are




relatively weak at dancing or athletics and others can see a 10-step action plan and copy it very quickly and have a very good ability to sequence our actions. Some of us can sequence physical acts very easily, but have a hard time sequencing ideas. Others of us can do both very easily. So we may have a gifted athlete who can't write an essay and we may have a gifted essayist who can't copy an athletic maneuver very easily. So, sequencing our actions and ideas and thoughts is another processing area.

Finally, the last one – there are many different ways that you can break up the turf here, so this is one way of doing it – is what we call “sensory modulation.” That’s simply how we respond and react to different sensations, like touch and sound and smell and taste and moving our bodies in space. Some of us, for example, when we hear some sounds, like the motorized sound of a lawnmower, we get irritated and over reactive; or if we hear high-pitched noises we get over reactive. We’ve seen children hold their ears in noisy rooms. Other children or other adults or are under reactive to sound. They go to loud rock and roll settings and want it louder or they love high-pitched sounds or motorcycle sounds. They almost crave sounds. The same thing applies for touch. Some of us are sensitive to wool and its light, tickly touch and only like cotton; others of us are impervious to touch or we bang in to things because we want more touch.


So, for every sensation that you can think about – from touch and smell and taste – you can be what we call “hyper” reactive or “hypo” reactive – you can crave that sensation. So, a child, for example, who’s under reactive or hypo reactive to sound, may not pay attention to you and you may have to really talk in a high-energy voice to get his attention if you’re a teacher or parent. Another child may get startled by your overly energetic voice. A child who’s craving touch may bang into everything or play the music real loud and everyone gets overwhelmed in the household. So, children and adults differ and there are three categories you should look at and you’ve got to do this for each sensory modality – is my child over reactive in one sensation and under reactive in another? Is my child – or am I – over responsive to touch or sound or smell, etc., or is my child or am I under reactive, or do my child or I crave that sensation?

So, this is our root system – how we take in and comprehend or get out sounds and words – language-auditory; how we do this for sights – visual-spatial; how we plan and sequence our actions and ideas (planning and sequencing); and how we modulate sensation – where we are on this continuum between hyper, hypo or sensory craving. So, once we answer that question we have our roots analyzed.



Now we have a picture of our tree and we can look at Sally – we’ll come back to her in just one second. In our learning tree we’re looking at the branches, we’re looking at the trunk, and we’re looking at the root system. What I like to do is first look at the tree trunk, because that gives me a kind of grounding. So, first I want to know: How does this child function emotionally, socially, and intellectually/thinking wise? Where are they? So, for Sally we saw that she could function on a high level. She could focus and attend in supportive settings if she didn’t get anxious. She could engage warmly with other people with a great capacity for intimacy. She could interact emotionally with exchanging signals. She could do some simple sequencing and problem-solving, although not real complex. She was creative with her use of ideas. She could talk about her feelings. She could be logical and answer why she wanted to do something and she could engage, as I mentioned, in multi-causal and gray area and even reflective thinking. So she had the fundamentals in place, but for each of these basic abilities in her tree trunk that she could apply to her emotional world and her intellectual world, we saw that it wasn’t as stable or as broad-ranging as we wanted it to be because when she got anxious and unsure of herself, she fell into all-or-nothing thinking, “I’m dumb. I can’t do it.” Then she stopped paying attention to her teacher, so she lost sense of what the directions were. She didn’t focus on what the kids on the playground were saying so she couldn’t figure out with more information whether they were teasing her or being mean-spirited. Fortunately, as I mentioned, she had warm parents and some good friends, so she could always recover. So she didn’t have the flexibility and breadth or stability at her tree trunk that we’d like to see, but she had the fundamentals present, so that let us know that we were working with a child with lots of potential and who had lots to work with, but we had to help her stabilize and broaden that tree trunk as one goal.


Next, I like to look at the root system. There we saw that she had some fundamental difficulties with sequencing and comprehending subtleties of sounds and words, so it was hard for her to follow complex directions with the sequencing, and it was hard for her to discriminate subtle sounds; therefore, it was hard for her to connect the sounds to the visual image when she was sounding out words. So she was reading for me in a halting way because it was hard for her to make a ready connection between the buh sound and the “B.” She had to go over it a couple of times in her mind and that made her a slow, halting reader and slowed down the information inflow. Also, it turned out when we looked at her root system, which I had mentioned before, she was very hyper sensitive to sounds and to touch – it made her an emotionally very sensitive



person so she got overloaded easily by the sights and lights that bothered her. So, she was generally hypersensitive or hyper reactive to many sensations; even elevators scared her a little bit or being in high places, so she was generally over reactive and overloaded easily and that also led her to regress more readily and become an all-or-nothing thinker. But she had some relative strength in her visual-spatial capacities, where she was a good artist, a good architect, had a good sense of direction and knew where she was, and that helped her not get too fragmented. When she got overloaded she could still kind of hold on to that sense of who she was and where she was. And she had some good fine motor skills that she could use for drawing and penmanship and had a sense of pride that also helped her in school because she could write things down quickly. But her gross motor planning and gross motor sequencing skills were difficult for her and she didn't have confidence in her body, so when she got overloaded or overwhelmed she didn't have a good sense of a sturdy body in space that even knew where the left and right sides were all the time; so that could add to her anxiety and confusion and polarized thinking.

So here we saw the root system. Now, all of the sudden, as we analyze the trunk and her root system we have a way of understanding her presenting problem, which was one of the branches, because her presenting problem was she was having trouble reading – she had a reading disorder – and she was having trouble following directions, so we had two branches we could understand. But when looked at the other branches, which is the third thing we look at in detail – we always look at the branches a little bit at the beginning because they're the presenting problem, but then we take a second look at the branches in more detail – is that when it came to oral and written expression, she had a hard time sequencing her ideas. So that was another part of the branches she had trouble with. She had organizational issues because of her sequencing. Her very supportive and empathetic and warm mother organized her homework and organized her study habits and kind of did her executive functioning for her, and because she was a dutiful little girl the teacher hadn't recognized the degree of her organizational problems, but she had rather significant ones. So, actually, she had trouble with that branch, as well.


So, she really had trouble with reading; she had trouble with oral and written expression; and she had trouble with organizational problems. Her math was a bit stronger, actually, in part because she had a good spatial sense and so she had a good sense of quantity. She could picture quantity and she could visualize the math. She knew what “more” or “less” was; she could picture that 100 was a lot more than 10, and it



made it easy for her to handle math facts on a good picture of space and quantity. She had a good feel for math, so she probably knew her multiplication tables and could add and subtract, and she was pretty good in science because of that, too, because that involved, also, a lot of visual thinking and picturing things. I mentioned she was a good artist, as well, she showed some real talent in art. As I also indicated to you, she was having trouble learning music, although we don't have a category for a music branch, but we can add that on.

So, we see that she actually had trouble with a number of the branches. Now, how does this translate – this more complete picture of Sally – how does this translate into a program for her? Well, obviously, in our intervention program we're not just going to address her branches, because in order to really strengthen her branches, we want to strengthen the root system – we want to strengthen the tree trunk and we want to strengthen the branches also. So, we want to strengthen our whole learning tree. So, now we see that we need a comprehensive program that's going to have the following goals. First, we're going to strengthen that tree trunk – we're actually going to do this simultaneously, but just to take it in order – we're going to help her not dig the hole deeper when she gets confused or anxious, we're going to help her use her good reflective thinking skills that she has to be aware of the fact that when she gets confused and doesn't follow directions she tends to get preoccupied with “I'm dumb” and then takes her eye off the ball. So by empathizing with how understandable it is to feel that way and how we all feel that way, but being aware of that tendency we are going to have as our goal to help her not indulge herself in that tendency, not live in that castle she creates so much, and instead realize that's the time to have that feeling, but then say, “Up! That feeling should be a reminder I need to pay *more* attention to my teacher and what she's saying because I need to see if I can listen for the second time she gives the directions or I need to raise my hand and not be so scared of appearing dumb or else it becomes a self-fulfilling prophecy and then I really don't know what's going on, and if I can be bold enough to raise my hand maybe I won't feel quite so dumb, so I'll actually know what the directions are or I'll ask a friend right after class.”


So, that will be one of our first goals – to help her – and also help her understand why she grabs onto that feeling so readily, that “I'm dumb” and where that comes from. So, we're going to help her try and get over that so she doesn't live in that castle and can actually use that feeling as a signal to pay more attention to thinking. The same thing on the playground: When she's getting overloaded or overwhelmed or unsure of herself, how to pay more attention to what other kids are saying to figure out whether



it's teasing or mean-spirited and whether it deserves a laugh back or a competitive put-down back, because sometimes you've got to protect yourself with a sharp tongue on the playground turf. So we're going to help her, also, just generally, become a more reflective thinker more of the time because then she can stay in the ballgame and that can help her, also, even compensate for some of her planning and sequencing problems. For example, if you're a very good reflective thinker and you have some good visual skills you can picture and diagram your essays and use your visual skills and your reflective thinking skills and actually draw a little picture with your main idea and then little arrows for supporting ideas and as you write your essay you can keep checking it against your picture, where you can have little boxes and little circles and little one-word reminders of what you're trying to prove. When we help her to be a reflective thinker and to use her strong visual skills, she can compensate and actually learn to sequence her ideas in her essays, where she'll use her visual-spatial and thinking abilities. So, strengthening her tree trunk is a very, very important goal.

We're also going to want to strengthen that root system, so we're going to come up with a series of exercises that are going to help her with her auditory processing and her ability to distinguish sounds. We're not going to talk about this today, we're going to talk about it next time, but we're going to basically have a program where she works on – just like you'd work on music or anything else – distinguishing the “buh” and the “duh” and the “guh” sounds and connecting those to the visual images. As a matter of fact, we're going to go back to some of the basics but we're going to make some fun games out of it so she actually becomes better at a skill that many kids learn when they're very little, but that she had hard time learning, and that will help considerably with her reading.


We're also going to work on sequencing skills – actually following verbal directions. We're going to do things like playing treasure hunt games, where you have to follow two-step directions and then three-step directions in situations where she's very motivated and has a lot of affect or emotion so she's able to follow more and more complex directions. That's going to help with her gross motor skills and her balance and coordination so she gets more confident in her body and knows where she is, knows her left side from her right side, and improve her balance and coordination and dancing or athletic skills, because those can improve dramatically, as well. So, we're going to strengthen that whole root system and we're going to make heavy use of her visual-spatial strength – the fact that she can picture things very well – to strengthen all the other roots. We're going to go into this more next week, as we come back to Sally, and



reflect on how to strengthen that root system. Also, we're going to help her overcome her sensory over reactivity and develop strategies to take control of her environment and thereby be less sensitive and not get so overwhelmed. One of the problems with sensory over reactivity is the secondary anxiety you feel – if you get overwhelmed by the sound or the touch or the sight or the smells, and then you feel anxious. Once you're anxious you're even more hypersensitive, whereas if you have a way of coping or of turning down the sound or of telling people to “shush” or going off into a corner, if you know you're hypersensitive, you get more confidence in your body and the way you need balance and coordination and physical movement. You're actually still a little oversensitive, but not nearly as much, and then you don't have that secondary over reactivity due to your anxiety and you can actually learn to cope much better. Actually, over time, then, your sensitivities tend to reduce because you're not constantly over sensitizing yourself with your anxiety levels. So we're going to work on that and then at the same time were going to be working on these things in the practical context of everyday schoolwork so we're going to be strengthening all her branches at the same time.

So, we'll come back to Sally next time. I see that we're getting close to the end of our time today, so rather than trying to squeeze more in our discussion of learning differences and learning strengths – there are two other children I want to tell you about – I think I'm going to (not to confuse you) do it in this order: I think we'll talk a little bit about Sally next time, in terms of how you work with a complex set of learning challenges like Sally has, and some examples of the actual interventions we would do now to help Sally, and then we'll talk about a child with learning differences, rather than learning challenges, and then a child – a very gifted child – with learning strengths and show you how we can even help them using the same learning tree model, based on our ®/Floortime™ framework of development.

Now, some of you are interested mostly in children with special needs; others are interested in children with learning challenges. What we find is that one of the reasons this topic of learning difficulties and learning challenges is so important is because many children with special needs who do very, very well once we help them to relate, communicate, and think better, are left with a number of these learning challenges. Then there are huge numbers of children who just present with these types of learning challenges that we're describing today for Sally. So, we're probably talking – when we combine special needs children with children who just have learning



challenges – we’re probably talking about a good 30 to 40 percent of the population. So, this is not an inconceivable number of children.

So, next week we’ll continue on this theme – it’ll be *Learning Challenges – How We Help Children Overcome Their Learning Challenges* – that will be the title for next week and I look forward to speaking with you next week at the same time. Thank you for joining us and we’ll speak to you next week.