

Web-Based Radio Show


ADHD: Making Sense of What You Hear

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Welcome to our web based radio show. Those who are listening or those who will listen to this at a later time, I thank you for joining us. Today we are going to answer a couple questions from a prior show where we talked about children with ADHD, and one of the questions was that we covered children making sense out of what they see and how to kind of organize and sequence their actions, but they wanted to hear a little bit more about making sense of what children hear, as another possible source of inattention, and certainly if the child is in class and getting directions from a teacher to do a, b, or c, it can be quite challenging if the child has trouble making sense out of what they hear. For example, the teacher might say, "okay we are going to give you a test and you have to decide whether 1, 2, or 3 are accurate and 4 is not, or 1 and 3 both are accurate and 2 and 4 are not, and if 1 and 3 are accurate, mark over here, and if 2 and 4 are accurate, mark over here, and if nothing is accurate then mark over here." Well I remember that confusing me when I was in school and even if I read it, in taking college-board exams or any other kind of state exam it always confused me and I had to go over in my mind a few times what these darn directions were. So I thought I would go into a little deeper explanation of how children make sense out of what they hear and how we can help them, because that is another source of children tuning out or being inattentive or looking inattentive even when they are trying because they cannot make sense out of so many words strung together.

Part of sensory processing is making sense out of what you hear and it has a number of components to it. The first one is, and we see this beginning in infancy, but it really persists throughout childhood, adolescence and adulthood, is decoding sounds. Do you have a good ear for noticing the different sounds, as a baby or young child or even as a school aged child, figure out the 'p' from the 't' or do you constantly confuse when the teacher says, "now be patient" or "be patient" and you say "what did she say? Run that by me again." "Be patient means wait and it will happen soon." So we have to be able to decode different




sounds, and fortunately our nervous system as it grows, if we hear lots of sounds as babies, we tend to distinguish the different sounds in the language that we hear. Japanese children will distinguish different sounds from American children, more effectively although both American and Japanese children may distinguish most of the relevant sounds for each language emphasizes certain sounds and we learn to distinguish them from hearing them and hearing them in context, so we associate them with experiences. And then we learn to sequence these sounds so we understand single words like 'love' or 'hug' or 'juice', and usually in the second year of life we see this ability for pattern recognition and being able to sequence different sounds as they come in. And then we move on to whole words and combinations of words like "want juice" and we can follow simple directions like "please open door" and we see this often in the second year, towards the end of the second year, certainly by the third year of life between ages two and three. We then notice the different answers to 'w' questions: 'where', 'who', 'what', and eventually 'why' by ages three and four and then we are really cooking.

Even if a child can comprehend more abstract questions like "why do you want to go outside?" or "how do you feel about your friend Johnny who is ill today?" or "how do you feel about Grandma being in the hospital?" Even if a child can respond to a complex question like that, they may not be able to sequence many, many words in a row that have to do with pure sequencing and this is one of the most common problems we see with children who have attentional difficulties. The ability to put into a sequential pattern, often a linear pattern, what they are hearing, particularly when it is adding one component to another component to another component. And the example I gave before about following directions; so a teacher, or parent saying "I want you to do first your math homework, then I want you to show it to me, and then anything that I can't help you with I want you to take to your daddy, and then after that I want you to go back and redo it to make sure you got it right and then show it to me first, and daddy second and then we will know we have it." Well, for some children that is a piece of cake: show it to my parents, go back and redo it and then show it to my parents again. For other children, that becomes a blurry quagmire of words strung together and the child has lost you somewhere along this highway of directions; off in a ditch or fixing a tire, so to speak to use a metaphor. So some children have trouble sequencing what they hear, particularly when it comes to directions, and that would make school confusing and make them not just appear inattentive but actually be inattentive because the response of the child, school aged child, of any age, is often to tune out when they feel confused, overloaded.




The helpful response to that, that we can help children with when they get confused is to give them permission to raise their hand to their teacher, or to Mom or Dad, and say “run that by me again” or “can you slow that down and give it to me one step at a time.” For adults who only have mild difficulties in sequencing directions, just think about learning a new dance where the instructor one, breaks it down, has you practice each step along the way, “first you put your left step forward, lets do that five times. Now we are going to put your right foot back, let’s do that five times. Okay now remember, left step forward, right step back. Okay we got that?” When you get that down real well, then you add in the next step to the dance. “Raise your right hand. Okay, let’s do that five times. Now raise your left hand. Okay, let’s do that five times.” You practice each element until you really have it. Another instructor says “I want you to put your left foot forward, then your right foot forward, then your right hand, then your left hand up, then I want you to do it in a circle around, then I want you backing up and do-see-doe-ing” and again you are lost. Although, your friend, or your partner, or your spouse, they’ve got it even with some more complex sequencing of directions. So we all vary considerably with how well we make sense out of what we hear by how well we can sequence the words, or sentences, or directions. The same comes from following a narrative of a difficult story that you might be hearing rather than reading, or sometimes this would go along with a problem with sequencing what we read as well.

The other component to this is seeing the big picture, abstracting what we hear particularly when it is not something concrete. So next we get to how you deal with, or how children deal with, or how we all deal with abstract verbal concepts. If a teacher is talking about how a character felt in a book she is reading to the class and that is an abstract concept and beyond the child’s grasp to comprehend, that child will get confused and might start staring at a tree outside the window of the classroom, if there are windows, which I hope there is. And many children have told me that, I can think of a little boy named Steven who would tell me that every time he got confused in class he would focus on something that was more enjoyable to him and he loved looking at trees, so he would look outside at trees and would, according to him, “zone out”. And there are certainly abstract concept in math and science. A child who is not quite understanding on how to do long division because both, it has a number of steps to it, the sequencing we just talked about, but also it is kind of abstract, he doesn’t quite get what we mean by dividing things up among people. That might seem easy for most individuals, but when you are first learning things it can be quite complex and abstract. Or it might be a scientific complex like gravity or why



things fall, or how the earth rotates around the sun, or the moon rotates around the earth. A child just might have trouble picturing that, seeing it in his mind, truly understanding it. A child might have been good at memorizing mathematics like adding and subtracting, two plus three is five, but doesn't really understand it or relate it to the objects. So when it comes to talking about buying a candy bar in a store, and dollars and cents and converting addition and subtraction into money, nickels and dimes and quarters, they get lost and they are not familiar with it, they can't quite get it and they tune out rather than raising their hand and say "run that by me again," "can you give me some more examples?", "I'm not quite getting it" or coming to the teacher after class or making an appointment after school to come to the teacher to learn. As one child told me, I just take the ostrich approach. And I said, "what's that?" "Ohh, I just put it out my mind, like I am putting my head in the sand." This is quite a bright child, but certain math and science concepts they just couldn't get and that is when they became "ostriches."


All this may have to do with making sense out of what we hear. Sometimes it can be combined with making sense out what we see and sometimes, as we will discuss and have discussed already, what we see can compensate for a lack of untrue understanding of what we hear. But, a difficulty of making sense out of what we hear can be the source of paying attention, and focusing and sustaining that focus during childhood. Now the strategy for correcting it is really extra practice in that area. When it comes to abstract concepts, we turn to our thinking because the levels of thinking, which we have discussed and we will discuss in more detail, has to do with understanding abstract concepts. So helping a child get to higher and higher levels of thinking is the solution to the problem we talked about in the last few minutes about dealing with things that are abstract. The problem that we brought up before that, having to do with sequencing, making sense out of a series of directions for example has to do with some of the practice games where we combine sounds with some of the actions like treasure hunt games where you start with simple directions and you add one more, and one more, and one more, until the child is really dealing with five or six step directions. Treasure hunt games are great ones, the key here is to have something that the child really, really wants and then make up games, treasure hunt is the best example of where you give them clues, but they have to remember the clues you give them in sequence, so you start with one clue, then go to two, and then three, and then four, as the child masters it, and simple tasks at home for which the child is rewarded, like getting Mommy's coat and hat so they can go outside and play together. Here you have something the child really desires and wants to do, but they have to follow simple directions to



do it. So their favorite activity, or going to the toy store, another example, has maybe three steps they have to follow first, have to get their own shoes on, get Mommy's coat and pocketbook, and then tell her when they are ready to go to the toy store. The child is very motivated now and again if he or she can't do the fourth step, you start with a three step or a two step. So practice will help with sequencing.

The other aspects of making sense out of what we hear, has to do with sometimes modulating sensations. The child who is oversensitive to certain kinds of sounds may cause them to tune out because they hear a cat's meow like a lion's roar or a motorized sound makes them feel overwhelmed. And we discussed this already and gave lots of examples of how this may play out in a child's life and also contribute to inattention. What is very important to come away with in this discussion is that some children will have trouble making sense out of what they hear. We have to give them extra practice in innovative ways, where the principle is connect something that they really, really want while practicing that particular skill or that capacity because their minds and their brains are very capable of learning with extra practice, just like the person may need a little extra practice to learn a dance step or to play tennis. So, when you are checking on what you want to help a child practice with, check out on how they deal with making sense out of what they hear. Making sense out of what you see is considered in a whole separate discussion and is already available.

Another question we frequently get is when to get additional help beyond what you are reading in this book. What I would say there, the answer is a very general one and somewhat easy one. If you really try this approach, and try it over a six month period of time and you are not seeing gradual progress, gradual improvement, it is time to seek the help of a professional who can further give you suggestions. And depending on where you think the problem is, may be what determines which professional you see, if it making sense out of what you hear or what you see, you may want to seek professionals who specialize in that area, a speech pathologist, or a visual spatial thinking specialist, for making sense out of what you see. If it is a motor problem with the child's sequencing actions and being coordinated, you might want to seek an occupational therapist. You may want to have psychologist or psychiatrist very familiar with attentional problems overseeing this. The question of medication has to be determined in consultation by a very qualified child psychologist or behavioral pediatrician who specializes in using medications as an additional helper, to help the child focus their attention. But the key is to follow the child's progress and see if they are growing stronger



in the areas they showed some vulnerabilities and there were some missing pieces in their development and you are helping sure them up. You may want to hire helpers to help carry out some of the exercises. Like one eight year old boy, we had a mentor or college student who did a lot of the motor exercises that we recommend with him, to help him sequence more complex actions and work on his coordination, and play a lot of modulation games with him. So with some direction and we used this time to also teach him about sports in a fun way and also built the motor sequencing, the carrying out three or four step actions, into sports. For a little girl, we did the same basic program, but we had the practice occur in learning to dance. For another girl, we also used sports because she was interested in soccer and interested in all kinds of sporting activities. So you can ensemble helpers to help you with the different components under your direction. You can seek additional professional consultation when you are not seeing progress. That person may help you figure out what's the missing piece. But first cover all the bases that we recommend, including the family patterns. There may be stress and anxiety in the family that is contributing, or the family may not challenge the child enough to help the child master certain basic abilities. So, the general answer to the question "when do we seek outside help?" is really when you need it, and you need it when you are either not implementing the program, then the help should come to you in terms of some family guidance and family counseling, or when the child doesn't seem to be benefiting from the program recommended, then certainly seek additional help and consultation to see if there are other components that need to be added on.

Well, thank you for listening today and we will respond to more of your questions as they come in around this topic and other topics in the future and we will speak with you again next week on a new topic.