

**SPEAKER:** I'd like to introduce to you our speaker again for the benefit of those folks who joined us just for the second half. This will be recorded, so I will remind you to keep your sidebar conversations to a minimum. We are recording this presentation. Dr. Peg Dawson specializes in the assessment of children and adults with learning and attention disorders at the Center for Learning and Attention Disorders in Portsmouth, New Hampshire. Along with her colleague Dr. Richard Guare, she has authored several books, including a book for professionals called *Executive Skills in Children and Adolescents: A Practical Guide to Assessment and Intervention* as well as a book for parents, *Smart But Scattered*. Their most recent book is *Coaching Students With Executive Skill Deficits*. Dr. Dawson worked as a school psychologist for 16 years in Maine and New Hampshire and is a past president of both the National Association of School Psychologists and the International School Psychology Association. She is also the 2006 recipient of NASP's Lifetime Achievement Award and a 2010 recipient of the International School Psychology Association Distinguished Services Award. And if you were here this morning, you understand why those awards were given to her. Will you join me again in welcoming Dr. Dawson?

**DR. PEG DAWSON:** Thanks. Okay, so we're going to spend the afternoon talking about interventions. And as an intro to that, in the handouts that you have downloaded -- and by the way, I am going to give the -- PaTTAN a revised copy of my handouts, so you can either email me for the full version or go to -- is it the PaTTAN website it would basically be? Yeah. I'll get that to them within 24 hours so that the full version will be available there. And as an intro to talking about interventions, what I started to say was in that handout packet, I have an executive skills questionnaire for you to take to figure out what your own executive skill strengths and weaknesses are. And here's why this is important. The more you understand about your own profile, the more it helps you understand how you interact with both kids and other adults. And it will give you some sense -- in my experience in working with this questionnaire -- and Dick and I were really the first ones that I've run into who talk about not just weaknesses, but also strengths in executive skills. And -- and this particularly applies to adults. The more you sort of identify what your strengths are, the more you can tap into those strengths to get through your day and especially to try to compensate for your weaknesses, because some of these executive skills are actually complementary.

So for instance, I'm really strong in time management and I'm lousy in flexibility. Those two tend to go together. One is a strength and one is a weakness. My understanding of why that is, at least as it applies to me: I am so oriented to time, and we will end exactly at 4:15 as a result of that, that, you know, I'm just always very conscious of how long it takes to do something, how much time I need to get

from one place to another, what's going to happen when. And as a result, when you throw a monkey wrench in that, you know, something unexpected happens, that really throws me because I already have the day planned. And then I have to go back and revise my plans. On the other hand, those of you who are high in flexibility may be poor in time management because, again, you sort of go with the flow. You -- whatever comes up is great for you. And it's really hard to have that sort of, you know, flowing with it mentality at the same time that you're very conscious of time.

Other sort of complementary skills we found: if you are -- working memory and organization seem to be interesting skills that go together. You may be strong in both, but if you're strong in one and weak in the other, my guess is you're using your strength to compensate for your weakness. You know, so I mentioned organization is one of my weaknesses. Working memory has historically been a strength for me. So I don't have to worry about remembering where I put my car keys, even though I may put them different places every time I come home, because my working memory is so good I can go back and remember what it was like when I walked in the door the night before. If you're high in organization and weak in working memory, you, too, don't have to remember where you put your car keys because you always put them in the same place, you know, day in and day out.

Now what we've found is that if -- some of these skills almost feel -- I mean, if it's a real strength for you, it feels natural to you. It feels innate, and it's really hard to understand someone who's weak at a skill that just feels natural to you. So I have a hard time understanding people who are poor at time management. And here's what I've learned over the years because I've led any number of panel discussions, and I've noticed this when I listen to talk radio, as well: any time someone says, oh, I'm just going to be brief, I know that they're not. That is such a cue for, I have no idea how long it takes me to say something. And so I -- sometimes I will change the radio station at that point because I thought, this is not going to be a brief response. So you find yourself having trouble understanding people who are weak at your skills. Same with organization. People who are naturally organized, it's really hard to understand those of us who are not naturally organized.

And so often what I've found: the tension points in relationships, whether it's between parent and kid, teacher and kid, or spouses or partners, is when one person's strength bumps up against another person's weakness. That's often a cause for tension. You know, I often joke that -- you know, I've been married for 40 years. I'm great at time management. That is not my husband's strongest skill. So what have we fought about over the 40 years of our marriage? Him being late. And why have we fought? Because I'm low in emotional control. I could just learn to let it go, right? But no. Having said

that, though, the actual -- the worst parent-child -- no, teacher-child profile that I've come across is actually a weakness matched up against a weakness. And that is an inflexible teacher with an inflexible kid. That really -- I mean, they -- people will struggle with that.

And that really came to me a couple summers ago when I worked with a kid who had had a terrible year in 5<sup>th</sup> grade. And his mom described this child, and it became very clear in my interview with the mom that this was an inflexible child. At the age of 11, his morning routine had to be so invariant that if one of his siblings was in the bathroom at 7:30 in the morning when he intended to be there to brush his teeth, it threw his whole day off. You know, so that's how inflexible he was. The mom described her battles with the teacher all year long. And the teacher, I'm sure out of some frustration with the mom, eventually said to the mom, you know what? I don't change my curriculum for anyone. So that's how inflexible the teacher was. And you can imagine as they butted heads all year long -- in any kind of power struggle, teacher's going to win. So the mom watched this kid's self-esteem drop over the course of the year. And you know, those are ones where the environmental modification is to match the child with a different teacher.

And with some of these, again, the more you understand your own child's executive skills strengths and weaknesses, those of you who are parents, especially at the elementary age level where they tend to only have one teacher, you may be able to make requests not for a particular teacher, because principals hate that, I know, but for a particular kind of teacher. And if your child has a teacher that he does really well with, enlist -- right now, enlist that teacher's support, too. Because that teacher may be able to know other teachers in that school that are sort of like him or her that they can help push that child in the direction of.

Okay, so having said that -- and I encourage you to take that questionnaire, to give it to other people you know. When I hear from parents who've read *Smart But Scattered*, I'm surprised by the number of times they say, you know what chapter really, really helped me? It was the chapter where I assessed my own executive skill strengths and weaknesses. So that clearly is really helpful to parents as they understand what's going on. Helps them understand why they're being impatient with their kid. May help them step back and say, okay, this is a mismatch and we're just going to have to deal with it.

Okay, so now let's get into -- basically everything I'm going to talk about for the rest of the afternoon falls under -- into one of these intervention strategies. Because there are basically three. And this applies not just to executive skill issues, but it applies to virtually any kind of educational or psychological disorder, you know, we may encounter. I suppose you could add a fourth intervention in

terms of medication, although that's -- yeah, so that's another way of changing the child, I suppose. But basically, we can do one of two things. We can change the environment to improve what we call the goodness of fit between the child and his environment, or we can try to change the child. And if we're going to try to change the child, then we've got two options: we can either teach the child the weak skill -- you know, they may have it, but it's not very well developed, or they may not have it at all. Or we can find some way to motivate the child, some kind of incentive, to motivate the child to practice the skill that they can do, but it's effortful for them. And so especially when we're talking about changing the child, what we're really talking about is habit formation here. And that's why it takes a long time. We're trying to build habits. And again, it goes back to that 10,000 hours of deliberate practice in order to get those habits instilled. Maybe not quite that long, but sometimes it feels like that.

Now with kids with significant executive skill weaknesses, we're probably going to want to design an intervention that includes all three of these strategies. And again, in the handout packet that I got people in advance, there's a one-page designing interventions form, which is actually also in our books if you have our books, that sort of offers a cheat sheet that says, here's how you go about designing an intervention. I'm going to give examples, as many as I can packed into two hours, of each of these strategies. I'm not going to come up with the intervention that will work for your kid because we're talking about 11 different skills across the ages of preschool to college. And so there's no way I can come up with just the right intervention, but if you fill out that form, keeping in mind the kinds of -- the categories of interventions I talk about this afternoon, then you may be able to tailor one that's just right for the child in question, either your own or a child you're teaching or working with.

Now what I've found from working with these strategies is that depending on the age of the child and depending on whether I'm making recommendations for parents or teachers, I'm going to stress different strategies. So with preschoolers for instance, I really focus primarily on modifying the environment because we don't expect preschoolers to have highly developed executive skills. And the sort of example for -- you know, if you've got to change the child or change the environment, you know, imagine you've got a 15-month-old who's learning how to climb up and down stairs, which is a great skill for kids to learn. But it also -- if they do it on their own in the early stages, it can be dangerous. They could fall down and get hurt. So as a parent, you've got two options. You can take the child over to the head of the stairs, you can get down at their eye level, and you can say, listen, I know you want to learn how to climb up and down stairs. That's important. It's a good skill to have. But if you do it by yourself, you could get hurt. So every time you want to practice going up and down stairs, come and get me. Or

we put up a gate and then we decide when they're going to practice going up and down stairs so we have a little more control over it. And you know, obviously we don't expect a youngster of that age or a preschooler in general to remember, oh, this is one of those situations where I have to go get mom. Because they're just going to barge into whatever it is. So that's why for the most part with preschoolers, we talk about, how can we structure the environment?

In terms of teaching the skill, teachers have the ability to teach the skill anywhere from -- these skills anywhere from preschool up through high school. They can fold it into their curriculum, and I'll give you some examples of how that could be done as well as some individual interventions. But teachers -- kids look at teachers as, that's their job. And so they're willing to listen to teachers try to teach these skills. Parents -- by the time kids reach middle school, parents have a hard time teaching their kids anything because kids don't think their parents know anything. And even if they do acknowledge that they know something, they certainly don't want to be taught by them because one of the primary developmental tasks of adolescence is to break away from parental authority. So parents can work on teaching these skills, you know, from preschool to late elementary school, and then after that, they need to move on to the next strategy, which is using some kind of incentive or motivator.

And that's actually where parents have an advantage over teachers. By the time kids hit adolescence, parents have access to a ton more incentives and more powerful incentives than teachers do. It becomes way more -- you can't do the reward basket on Friday afternoon anymore by the time kids hit middle school or high school. So very often, if it feels like this kid needs a motivator, whenever possible, I say, okay, parent, teacher, kid, you all need to get together and design this intervention as a group so that teachers can give parents the data they need to determine whether or not the child has earned the incentive. You know, teachers can say whether or not the kid has handed in all his homework or what grades he's earned on tests, if that's what you're working for, or whatever. And yet parents will be the ones to allot the reinforcers. And obviously, you know, we've got a ton with teenagers. We've got all kinds of -- access to technology. We've got, you know, any number of weekend activities that can be contingent on practicing the executive skill: keys to the car, trips to the mall, things to do with friends, all of those things.

It's tricky. Parents don't often know how to use those incentives without assistance because what they tend to do is either make the reward too small or not appealing to the kid, or they make the distance between the onset of the incentive system and the reward so far out that the kid can't get there. I mean, that's why when parents say, so what do you think about paying kids for report card

grades?, you know, my reaction is that that's probably not a good idea, mostly because it doesn't work. Because if you've got a kid that you're trying to improve their grades, the beginning of the marking period to the end of the marking period is way too long a period of time. So if I have time, I can talk about how I help parents design incentives so that they're getting daily feedback -- even if they're working towards a longer-term reward, they're getting daily feedback that shows progress towards that reward.

Now ironically enough, although most of you here are here because you work with kids, at least a couple of you have already come up to say, you know, I need some help understanding my spouse. And so of these three strategies, what do we recommend with adults? Number one: environmental modifications. It's just like preschoolers. And that -- you know, I mentioned that these skills take 25 years to develop, and then it feels like they're set in stone. It's really hard to change these profiles after age 25, age 30 for kids with ADD. Some of you may be parents of kids with attention disorders and are worried because that age 25 is looming. You know, Russ Barkley says he never gives self-reported ADD checklists to people below the age of 30 because he doesn't feel like they know themselves well enough. And so you can give kids with -- you know, that's good news/bad news. It'll take kids with ADD an extra five years, so you've got five more years for those frontal lobes to develop. On the other hand, that's five more years where what are you going to do with them? Are they living at home? So that's the downside. But yeah, with adults -- I mean, again, I talked about how I've developed checklists. You know, I haven't -- I don't do exercises to improve my working memory. I'm working around, you know, my declining working memory and coming up with those strategies. And helping adults do that is probably the best use of your time if that's something you're working on.

Okay. And actually, I guess the one other sort of broad principle before we get into specific examples is no matter which skill we're going to ultimately put most of our energy into, we generally move from external to internal. So we think about, what can we do to tweak the environment to make it less punishing for a child at any age before we start thinking about changing the child? At the point where we decide, okay, now we're going to focus on the child, we recognize that we're going to spend a lot of time externally cuing that child before we expect them to self-cue. And this is where a lot of the impatience and frustration comes in with these interventions because people want these kids to start self-cuing long before they do. And part of it's a motivational thing. I mean, you know, if it doesn't matter to a kid whether or not he hands in his homework, why should he self-cue him about that? So that's why we -- you know, we may make sure there's a bedtime routine that involves making sure all

your homework is in your backpack. And we may do that for a long time. I will give examples of how I believe that pays off over time, but I know it's frustrating in the early stages. And what I often say to both parents and teachers is, progress is measured in years and not months with these kids. And part of the frustration of that is -- I mean, there's some of you in here who I know work with some pretty involved population with some pretty significant impairments or mental health problems. And in the grand scheme of things, executive skill weaknesses look pretty mild. And so you think because they look pretty mild, we should be able to shape them up quickly. Unfortunately, that's not been my experience. It does take a long time for that to happen.

Okay. Oh, shoot. We tried things to see if we could keep my computer from freezing, and it didn't work. So I think I'm going to have to -- when I get home, I'm going to reload this whole program and go from there. Okay, so now I'm going to start giving examples. And I'm going to start with environmental modifications. Yeah. And again, this is just a small sample. I've tried to give enough of a variety so that you can get some ideas for the kids that you work with. This morning, I know I spent a lot of time talking about kids with attention disorders. A lot of my examples this afternoon relate to kids on the spectrum because it looks like a fair number of you work with that population, as well. That's not the group I work predominately with. I do a lot of assessment of kids on the spectrum. I don't do a lot of intervention design. My colleague Dick does, though. And so some of the examples I'm going to give are ones from his practice and -- because he's very skilled at working with this population.

On the left-hand side, you're going to see the -- both the task domain, like change the physical environment, and then below that, you see the kinds of executive skills that would be addressed by the classroom supports or -- and some of these are home supports, as well, on the right-hand side. A lot of what's in parentheses are sort of reminders to me of things I want to mention, so they will -- may not make sense. But that first one in terms of changing the physical environment -- now again, we're not changing the child at this point. We're just trying to make the environment more supportive. Adding barriers: that runways example is -- that's a preschool example. Any good preschool teacher will tell you that you never set up a preschool classroom the way this room is set up with this long corridor right down the middle. Why? Because that's a runway, and preschoolers like to run. And you can spend all day talking to kids about indoor/outdoor behavior. Don't run inside. We only run outside. Or you can design a preschool classroom so they can't run very far before they run into something. I mean, that'll discourage you from running pretty quickly. We still do those reminders, but it's still -- I mean, it makes our jobs easier.

The seating arrangements one: you know, I'm convinced that if I collected every 504 plan in the United States, preferential seating would be the number one accommodation. And I've recently -- I don't know why it took me so long to understand this. I've recently become sympathetic with teachers who must have, what?, seven ADD kids sitting in the front row all needing preferential seating. And they're all sitting right next to each other, so they're distracting each other. So you almost -- I mean, you could make this a rotating thing. Okay, this time it's your turn to sit in the front. Or actually -- you know, I think it works best in those classrooms where teachers never sit still. They're always roaming, and kids never know where the teacher's going to be next. By high school, these kids self-select. They will sit in the back of the class because they know they're going to get distracted. And they think they're less likely to get in trouble for that if they're sitting in the back of the class. And so there are times with high school kids where, you know, if teachers are going to teach from the front or maybe they're working on a PowerPoint or something like that, they may want to say, now you've got to sit up front today or you've got to earn the right to sit in the back.

So -- now reducing distractions: you know, this is another one which is sort of -- I always thought of as sort of a throwaway one. I mean, I've been working with kids with attention disorders for years, and we know that they're easily distracted. I've just recently come to appreciate how challenging it is for kids with ADD; from their perspective, what distractions are like. And if you've ever talked with a kid with ADD about what it's like to take a test, they will tell you that any tiny noise will set them off. You know, the kid's scraping his chair or tapping his pencil, or someone walking by in the hallway, whispering to the teacher. And so -- and every time they get distracted, remember that mind wandering thing? They have to check out, you know, what was that? And then they reorient themselves to the test. And let's say they got distracted right after they formulated the perfect answer to that short answer essay question, but before they got it down on paper. And then it's lost. And so that's very frustrating for those kids. So a lot of the teachers in my area will allow kids to listen to MP3 players or iPods or something like that while they're taking tests. If that's not an option, then you know, taking tests in a quiet location can make all the difference in the world for some kids.

The music is white noise. Here's the question I get from parents, and they ask it like this, so what do you think about my kid listening to his iPod while he's doing his homework? So obviously their body language is telling me what they want me to say. And you know, I say, it depends. You know, I've talked to too many kids who tell me that the music coming through their iPod actually screens out bigger distractions. So it acts as white noise. My son, for example, he can tell me -- he will tell me, I can listen to



instrumental music. I cannot listen to music with lyrics because I start -- like I do that. I start listening to the lyrics rather than the music. I had a girl yesterday. This was a variation. She said, I cannot work in a quiet environment because if it's too quiet, every little thing, I notice. And so she would be another one where having that sort of background noise is better for her and where a quiet location for taking a test might not work. She might do better with those iPod -- with listening to an iPod.

The organizing structures, and there are various ways of thinking about this, but that's a way of bringing -- I mean, and you can talk about organization in terms of time as well as space. So an organizing structure would be a routine so that -- you know, classrooms that are set up so that the homework is always placed in the same place on the whiteboard or blackboard when kids come in. And step one, the first thing you do when you get to that class is sit down, open your assignment book, and write down your assignment. And have the teacher wandering around to make sure everybody's doing that or pair kids up to make sure -- you know, they're each in charge of making sure the kid sitting next to them wrote down his assignment correctly. Kids on the spectrum -- the classes that Dick works in, and he works with a lot of young kids, those classrooms are designed. Every -- all the materials in that classroom are in clear plastic bins with a picture of what material goes in each bin. And I've had parents of kids on the spectrum say that's how they set up their kids' bedrooms. You know, so there's a picture of a matchbox car in one plastic bin, LEGOs in another. What that does is it turns room cleaning from an open-ended task to a closed-ended task so they know -- they pick up something and say, oh, I know where this goes, you know, which bin it goes in.

Okay, this is another sort of way of organizing the physical environment for kids on the spectrum. I did a lit review recently because I wrote a chapter on executive skills and I wanted to see what people were talking about now. This is called an individual work system approach for children on the spectrum, and basically it says, okay, so you set up their work environment so they have the space right in front of them where they're going to work. On the left-hand side, you've placed the five things they need to accomplish, one above the other, and you can see the order in which they accomplish it. And then on the right-hand side, there's a finished box. So basically everything moves from left to right across their workspace. Although this was written or designed for kids on the spectrum, I could see this working for kids with ADD, too, who also get things lost and confused. And if you build in breaks so that they know as soon as they finish that first thing, then they get to take a five-minute break, then you're building that in, as well. Or a variation on that would be, you know, hand the kid, you know, three poker chips and say, put the poker chips where you want the break. And so that's building in choice, and it's

helping kids think about, when would be a good break time? After the first task when I've still got plenty of energy and when it's an easy task or, you know, after the third when I know I'm going to need a break?

Okay, moving on to changing the social environment -- and this is particularly important, obviously, for kids with impulse control problems, response inhibition, or emotional control. And obviously, you know, the kids with extreme problems in those areas, that's why we put them in smaller classes with more adults. A home-based example of that I think of: you know, when my kids were growing up, we had the birthday party rule. You know, if you were four years old, you could invite four kids to your birthday party. If you were five years old, you could invite five kids. You know, that works for typically developing kids. It does not work for kids on the spectrum or kids with problems with emotional control. So that's why -- you know, for those kids, a birthday party that involves one other child and a structured activity where the structured activity drives the social interactions is probably the best -- you know, the best kind of birthday party for a kid like that. A lot of the schools in my area divide up recess, so they have both structured play activities that are supervised by an adult and free play. And kids who can't handle free play because of problems with response inhibition are assigned to the structured play. And maybe they can earn their way back to free play.

Changing the social mix: I mean, we know there are some kids who shouldn't be seated next to each other, some kids who probably shouldn't be in the same classroom. Again, we're not talking about giving these kids coping strategies for tolerating kids they don't get along with. That comes later. That's the teaching piece. Now we're talking about, how can we make the environment go more smoothly for those kids? And we often think about kids who shouldn't be in the same class, but I think we also should be thinking about kids who should be in the same class. And here's an example of this because I would not necessarily have thought about it. I saw a kid a couple years ago who was transitioning from 5<sup>th</sup> grade to middle school, and he had really significant social anxiety. And his parents told me it had taken him five years to make two friends. That was it. They were very close friends. He felt really good about them and good about himself, and they were in his class. When he transitioned to middle school, those parents said to the principal of the middle school, please could you place my child with one -- at least one of his two friends? Well, they didn't honor that request. And I know it's complex, but not only did they not honor that request, they placed the two friends in a separate pod, you know, together. And so here's this kid over here, and every day he passes in the corridor his other two friends who are still together. And if you think about that anxiety and that loneliness and how that interferes with learning,

that was a really bad move. Because this kid does not feel comfortable, you know, in the setting in which he is. So you know, whenever possible, taking those things into account as we make assignments, as well.

The seating arrangements -- the special table in the cafeteria is actually one of Dick's examples, and again, it's a kid on the spectrum. This was an intervention they designed for a middle school kid who his teachers noticed, every lunch, he would sit at a table by himself. No other kids around. Looking unhappy. Looking lonely. And so they came to Dick and said, we've got to do something. This kid looks like lunchtime is miserable. So what can we do? And Dick said the first thing they did was they just spent some time in the cafeteria getting a feel for, what's the culture of the cafeteria? And when they did that, they noticed that there was one table in that cafeteria that was a popular table. So whatever kids got to the cafeteria first every day at the lunch period gravitated to that table. So they commandeered the table, and they assigned the kid on the spectrum to that table, as well as an adult. But they chose an adult, and it varied from day to day, the kids liked. You know, someone with a good sense of humor, someone kids enjoyed spending time with. And so -- and then they said, okay, anybody who wants to sit at this table can. It remained the popular table. That was sort of the brilliant part of this. So the table filled up every day. So we -- it was a somewhat artificially engineered social environment for this kid on the spectrum, but he was no longer eating lunch alone. And who knows, maybe there's some chance, not necessarily of making friends, but at least learning how to carry on conversations with kids. And obviously an adult was at that table because when you put a kid on the spectrum with a bunch of normal kids, you know, really bad things can happen without supervision. The quote unquote normal kids can egg the kid with Asperger's on so that they do stupid things. And the kid just wants the attention, so he does it. So the adult there was sort of the -- acted as the brakes on that piece.

Now -- so those are just some examples of environmental modifications. Look at classroom design. Look at bedroom design. Look at the sequence of tasks you're asking kids to do, whether it's getting ready for school in the morning or what your classroom looks like. But I want to move on to talking about task modifications now. And this is admittedly more labor-intensive. You know, once you've modified the environment, you know, once you've assigned that kid with Asperger's to the table in the cafeteria, you don't have to do anything else. If you're going to modify tasks, every single task has to -- or every single task of a certain kind has to be modified. So that makes it much -- a more difficult intervention. Within that, though, however, not only is this first one the easiest, it's also the most effective: just making tasks shorter. And you can do that either by reducing how much work you're

asking them to do or building in breaks so they get periodic breaks before -- in between as they're working on a task.

And you know, I think of a 3<sup>rd</sup>-grade teacher I worked with many years ago. Very traditional teacher. Kid in her class with attention problems. And she was one of those teachers who, you know, her morning routine was do the reading groups one after the other, and the rest of the class is engaged in seatwork. And as soon as she sat down with her reading group, she set a kitchen timer for ten minutes. When the bell rang, the kid with ADD knew he had to get up and go over and show the teacher his work for the previous ten minutes. You know, this was a skilled teacher who could quickly glance at his work, make sure he's on task, maybe point to some problem he needed to fix, and send him back to his seat. And then she'd set the timer for ten more minutes. That intervention, relatively simple, but it does several things. It enables the kid with ADD to get up and move. And kids -- we know that movement and physical exercise helps kids focus. And I mean, that's one of the -- I know OTs like to prescribe a sensory diet. That's the piece of the sensory diet I like the most. It's that movement, because we know, as I say, that periodic movement helps kids with attention disorders. It also broke the task down so he was only working in ten-minute increments. But it also let this kid know that his work was being monitored so that every ten minutes, he better be a little further along than he was the last ten minutes because the teacher was going to notice that.

Making the steps more explicit: this is another one that's hard to do, but it's in the -- especially for kids with problems with flexibility. We ask kids to make inferential leaps, you know, for any number of tasks. I think of math in particular. And I think it's true in math because a lot of math teachers understand math intuitively, and when you understand anything intuitively, you don't know where you're making the leaps. So just spelling out the math procedure -- I mean that -- do people around here use Everyday Math? Yeah. You know, I don't think they -- I mean, there are any number of problems -- I know that it's got good research and it certainly stresses conceptual math development, which I think is wonderful. But that whole recursive process where you're introducing the same skill at various stages and you don't expect mastery, and they'll get around -- they'll get to mastery eventually. I may be -- those of you who are real experts in this may be saying, man, have you screwed that up. But that's the report I get from parents, that their kids are lost with that kind of approach. In fact, I have in my packet here a set of homework assignments from Everyday Math just to remind me of how when you look at it, I have no understanding what I have -- what I would have to do. So spelling out the steps. Sometimes

those kids need a different math program. They need something that's structured and sequential as opposed to concept-driven and recursive.

Another place where we ask kids to make inferential leaps because most kids can is social skills. So this is actually a cue card from a social skills program that Dick developed with an autism expert he worked with, someone from the May Institute. And they use it -- he basically took about 20 different -- 15 to 20 different social skills and task analyzed it. So it's, what is listening? And so they use it in, you know, the fairly traditional social skills approach where you have kids role-play the activity. And then everybody else in the group, and he's done this in whole classes in small groups, is sitting around with this cue card in their hand. And so after the role-play, you reviewed what just happened. Okay, let's look at the listener here. Did the listener face -- use it like a checklist. Did the listener face the speaker? Check. Did they pay attention and show interest? Check. Did they keep their body still? And you could see they are using I think Myra Johnson pictures for kids who can't read. And then redo the role-play with other people involved. If anybody would like a copy of this program, I'd be happy to send it to you. It's not complete because Dick did this on his own and, until recently, I was the task completion person in our partnership. He's gotten better. He was the primary author on *Smart But Scattered Teens*, which is our latest book, actually. So he's gotten better at that, but I think there's enough here that at a minimum, you'll get 15 to 20 different social skills that have been broken down into individual steps. So just email me and ask me for Dick's social skills program. And I'll send it to you as a Word document.

Creating a schedule: again, kids on the spectrum need to know what their day looks like. They get anxious. I remember years ago, before we even started about -- talking about Asperger's and kids on the spectrum, I worked with a kid whose mother told me when he ever had a school vacation, first thing he'd do is make a schedule. Here's what I'm going to do from seven to 7:30. I get up. I get dressed. 7:30 to eight, I eat breakfast. And he had the whole day planned out. And that's how much these kids need to know what's going to happen when. In the classroom that Dick's work -- works in, they take huge poster boards and put two strips of Velcro on the board. And they laminate pictures of the day's activities, either photographs or line drawings. And when kids come into school in the morning, there's an array of pictures along the top row of Velcro. And as the day progresses, they move the picture from the top row down to the bottom row so kids can watch the day progress, and they know exactly where they are in the day. They know what's coming next. They know what -- how much they have left to do.

Building in variety or choice: I sometimes wish that when we were designing lessons, the first thing we'd be thinking about is, how can we incorporate choice into this lesson? And this came to me --

so much of this -- you know, I'm so concrete, but so much of this came to me when I appreciated in myself how important choice is. I've written articles and chapters and books for publication my entire adult life. I've never worked in a university setting where I was required to do that, so all the writing I've done has been at my own, you know, instigation, for no payoff until recently. I now get paid for the books I write, but that was, you know, 20, 25 years down the road. And what do I write about? Things I care passionately about. You know, my first publication, I got curious to know, does ability grouping work? You know, so I surveyed the literature to see what happens when you place kids in classes by ability. Then I got curious to know, does retention work? And so I surveyed the literature, wrote, you know, articles in newspaper -- newsletter articles and book chapters on that.

So everything I'd done -- except somewhere along the line, I agreed to write a chapter on interviewing for an edited book. A friend of mine was doing a book on -- I even forget -- I think it was on interviews in general, but she wanted me to talk about the particular kind of diagnostic interview that I fold into my assessment process. I didn't want to do it, but she was a friend, so I agreed to do it. And then I dragged my feet every step of the way. You know, I'd write her. I'd say, Rachel, I'm so busy. I'm not going to be able to meet your deadline. She'd write back and say, okay, you can have another three weeks. And I'd write her. Rachel, I know what I want to say, but I don't have the scholarly articles to back up my point of view because I'm a practitioner. She sent me a packet of scholarly articles. She said, here, this is what I think you need. I finally wrote the damn article, but I realized -- I mean, that's what we're -- that's what kids do all the time. We ask them to do something they don't want to do, and they drag their feet. So is there some way we can build in choice?

And just a couple of quick examples: I worked with a teacher many years ago who -- he taught an interesting sort of outdoor leadership class at the high school level. So it was a novel class to start with, but he came up with a whole menu of homework assignments that were modular. So you could use the same assignments for learning different skills. And he attached point values to each assignment depending on how hard he thought the assignment was and how long it would take kids to do it. And at the beginning of every week, he'd tell them how many points they had to earn by the end of the week. Hey, you've got to come up with 75 points this week. You decide. You know, so they might do one 75-point assignment, they might do three 25s, you know, however. Mix and match. And I thought that was a novel way -- the only thing I would add to that is I would have added an other and allowed kids to design their own homework and attach a point value to it. And you can negotiate the points.

I worked with -- I had a couple of 6<sup>th</sup>-grade special ed teachers visit me a couple years ago to talk about how they were incorporating some of our ideas into their school. They had a 6<sup>th</sup>-grade teaching team, regular ed teachers, that they couldn't have spoken more highly of. And one of the things they said was one of the ways these teachers incorporated choice -- I never would have thought of this. When they assigned the long-term project, they let kids choose the due dates. Pretty -- you know, pretty simple thing, obviously within a time parameter. But when you think about what that means, if you pair that, as you should, with a discussion about, okay, so is that a good day to hand in an assignment? What's your life look like? You know, because I live in New Hampshire. I've got kids who ski from five o'clock Friday evening until seven o'clock Sunday night. And so Monday's not a good day to turn in a long-term assignment. I mean, at the end, if you're one of those kids with a gazillion after-school activities and your only downtime is on weekends, then Monday is a good time. So you can pair that with a discussion about planning and time management and all those other things and incorporate choice.

And then making the task closed-ended: this is -- this is a -- this was a huge light bulb for me when I realized the difference between open-ended and closed-ended tasks. You know, obviously -- well, here's the definition for open-ended tasks, and you actually only need one of these. So multiple possible correct answers, multiple possible ways to achieve the correct answer, task has no obvious starting point or provides no feedback about whether or when it is complete. If any one of those are in place with any given assignment, it's an open-ended task. Obviously, the sort of quintessential open-ended task we ask kids to do is a creative writing assignment. It's got all four of those in there. And -- but there are others. I mean, think about the standard spelling assignment. Take your spelling words and put each one in a sentence. Well, there's an infinite number of sentences for every spelling word. And for kids who have problems with open-ended tasks, and these are kids who are cognitively inflexible, those are the ones who really struggle with this. They're going to have trouble with that. You know, I've had people say, well, math, that's a closed-ended task, right? Look at the second one. Multiple possible ways to achieve the correct answer. And that's the way we're teaching math now. It's, what's another way you could get that answer?

So -- and in fact, here's an example. I had a mom several years ago tell me about her daughter melting down over certain kinds of homework assignments. And I said, well, can you give me an example? And she said, yeah: last night's math homework assignment. The assignment was, take the number 24 and figure out how many different equal number groups you could divide 24 into. So eight

groups of three, three groups of eight, four groups of six. And as she's telling me this, I'm thinking, oh, why did they start with 24? I mean, there were so many options. How about just -- let's start with four. You know, one group of four, four groups of one, two groups of two, and you're done. And that's one way to make it -- a task more closed-ended, is to reduce the number of choices.

I had -- I did a workshop several years ago in Greece and had a creative writing teacher from the UK come up to me at the break after I'd talked about this. And she said, I now understand this girl in my class. And she said, this girl had come -- she struggled with writing. Just couldn't think of anything to write. Had a terrible time. And she's in a creative writing class, so you can imagine. It was a disaster for her. She came to her teacher one day. Very conscientious student. Came to her teacher and said, how can I learn all of the stories there are in the world? What was she doing? She was trying to turn an open-ended task into a closed-ended task. She figured if she could memorize every single story, then when the teacher assigned her a particular story to write, she'd just pull out that one she'd memorized and plug it in.

Obviously -- you know, so if we were going to modify, say, that spelling assignment, you know, if the point is for the child to learn the spelling words, have him write it five times. That's about as closed-ended as it gets. If the point is for them to understand that spelling words have meaning and that fit in a meaningful context, then you write the sentences, pull the spelling words out, put them in a word bank at the top of the page, and all the kid has to do is select the right word to fit in the sentence. But obviously that's labor-intensive. And ultimately, we want kids to be able to do open-ended tasks. And more often than not, it's parents who ask me about this, you know, more than teachers. How can I help my kid with these open-ended assignments? Now cognitive flexibility is not my strength, so that's a hard question for me to answer. But my -- the easiest answer to give parents is -- because they don't want to do their kids' homework for them. But kid doesn't know how to get started, doesn't know what to do. I say, think aloud. You know, you do the assignment, but walk them through your thought process. And you can do that repeatedly, and more and more, you can turn over that thought process to the child. So eventually they may be able to internalize, you know, the thought process involved in an open-ended task. Okay. [inaudible].

I think I have one other example here. Yeah. Okay, just sort of wrap up the task modification piece. I need to keep track of the time here. This was a study that was done. It was published in the Journal of Applied Behavioral Analysis way back in 1992. I don't think the journal was very old at that point. And it was -- I won't spend a lot of time on it, but I just want to use it to illustrate how task



modification alone can dramatically impact both disruptive behavior and on-task behavior, in this case. This was a single case study design featuring a little girl named Jill. She was 12 years old. She had been identified as having mental retardation, attention disorder, some kind of a disruptive behavior disorder, and schizophrenia. I don't know how you get that combination, but her behaviors certainly fit all of those. Talking out, yelling, spitting, knocking over furniture, delusional speech: all of that stuff was what her disruptive behavior looked like. And I -- you know, I was still working in the public schools at that point. I thought, why isn't this kid in residential placement? This is really disturbed behavior.

The authors of the study who carried out the intervention didn't put her in residential placement. They spent five weeks observing this girl in the classroom. I'm thinking, oh, those poor teachers. You know, get with the program here. We've got five weeks of disruptive behavior they're observing. But what they were looking for is, what is setting this kid off? And they came -- triggers, we call it now. They came up with four hypotheses. And they systematically manipulated each one. So the four hypotheses were one, Jill's better behaved when she's engaged in gross motor as opposed to fine motor activities. Jill's better engaged when she's doing short tasks as opposed to long tasks. She's better engaged when the task she's asked to do has some functional meaning for her. So if she's practicing handwriting, rather than copying a letter out of a handwriting book, she's writing a letter to the 1<sup>st</sup>-grade teacher asking if she can come down and read stories during story time to the class because she liked to do that. And then finally the last one they tested was that Jill seemed to be better behaved when she had choice as opposed to no choice.

So the second one down -- and what you see on the left-hand side is disruptive behavior. And so any -- the high greys there, that's disruptive behavior. On the right-hand side, you see on-task behavior. So the high black, that's on-task behavior. So this is short versus long task. Day one, they gave her a short task. No disruptive behavior. Day two, long task. High levels of disruptive behavior. So you can see every day she had a short task, she had virtually no disruptive behavior. The one day where she had some disruptive behavior, what they -- they went back to look at that because that's like day three in there of short tasks. They found that on that particular day, teachers had just given a verbal cue that it was a short task day rather than putting a mark in her worksheet and saying, you only have to do this much. So that's the power of a visual cue as opposed to an auditory cue. What was the difference between short and long tasks? Short tasks were five minutes. Long tasks were 15 minutes. So there's a ten-minute difference between the short task and the long task and huge differences in terms of disruptive behavior and on-task behavior.

The bottom one, also, particularly in terms of on-task behavior, that was choice versus no choice. Did they say to Jill, okay, Jill, what do you want to do today? No. They -- the choice condition was, Jill, you've got five things you have to do. What do you want to do first? What do you want to do second? So the only choice she had was the order in which she was going to do that. And I remember when I read that, I thought, man, we don't give kids much choice, do we? Because if just letting them choose the order in which they're going to do something has that powerful an impact on on-task behavior, you know, imagine if they were really fully engaged in whatever we were asking them to do. So they then implemented -- they changed her curriculum to match their hypotheses. All that disruptive behavior went away.

Okay. And then one more environmental modification, and then I'll go on to teaching strategies. And that is: change the way we interact with kids. This is actually a very broad area, and some of these I'm going to talk about more specifically with teaching strategies because these really pair themselves nicely with a lot of teaching strategies. I'm going to talk about rehearsal in the context of a kid with problems with behavior regulation, but anytime you're implementing a procedure to -- especially to help kids with self-control or response inhibition or something like that, have them practice the procedure in a role-playing or a simulation kind of situation, maybe repeatedly. So if they need to learn to walk down the corridor between the classroom and the lunchroom and keep their hands to themselves, then you practice doing that just with the kid. Then you may, you know, recruit a couple of his classmates, put one in front and one behind, and he learns that, you know, no closer than an arms' length between you and the kid in front of you or behind you. And again, practice and reinforce. And I'll give you another example of this in a minute.

Using verbal prompts: I have to admit that -- whoops, that was my fault -- that there are pluses and minuses to verbal prompts. There are times when we overuse them and times when we underuse them. And I want to give you an example of each. I saw a kindergartener many years ago whose mom came in for an ADD evaluation. And she said to me, my son came home from school last week and he said he wanted to change his name. And she couldn't figure out why, and then it slowly sank in. He was so tired of having the teacher call his name. It was, Nicholas, it's circle time. Nicholas, pick up your pencil and get to work. Nicholas, take off your snowsuit. Recess is over. He had another name all picked out. You know, maybe if he wasn't Nicholas, he could sort of lie beneath the radar. So that's an overuse, and that would be one where, you know, a non-verbal cue might be good, teacher being next to the kid and just a quick tap on the desk or -- you know, working on those kinds of strategies.

On the other hand, I see a ton of middle school kids -- and high school kids, as well. I'm bothered by it at both age levels, but particularly at middle school, where they tell me class ends and it's their job to remember to hand in their homework. No one reminds them to do that. Now it's possible that teachers have attempted to teach a procedure so that they should know at the end of class that they're supposed to hand in their homework, but even still what troubles me about that is it fails to take into account the social life of middle school kids. You know, it's the end of the period. Are they thinking about handing in their homework? No. They're thinking about what's going to happen between here and the next class. I mean, the boy's worried about being pushed up against the locker by the bully he always passes. Or the girl is trying to come up with just the right thing to say to that cute boy she passes in the hall, and maybe he'll notice her. Or kids making plans for after school. That's what's buzzing around in their minds. I mean, if I were teaching middle school, I'd be standing at the door, and your ticket out of my classroom would be to hand in your homework. And if you don't have it, go to the end of the line and by the time you get back to me, come up with a plan for when you're going to get it for -- to me. And you know, I think even into high school, if we can instill homework routines, we might be able to fade the cues over time, but we should always begin the year letting kids know, here's the plan. Here's what we're working on.

I'm going to talk about checklists or schedules in a minute, but I do want to spend just a minute talking about praise. And you all probably over -- have over-learned this. But to be honest, I mean, this is like short tasks in terms of task modifications. This is probably the most powerful intervention you could ever use with a kid, and it costs nothing. And the rule -- I mean, we've got tons of meta analysis, you know, where they take a ton of studies and say, okay, what works and what doesn't work? So we know that if you give kids three positive pieces of feedback for every corrective feedback -- actually, it's 3.1. Martin Solomon did the research on this. That alone can change behavior: 3.1 positives for every piece of corrective feedback. Here's the problem. Really hard to do for two reasons. One is there's a big difference between kinds of quality of feedback, but the other one is just even remembering to do it.

You know, I learned -- when I was in graduate school, the ratio they were talking about most days was five to one. And you know, I knew that stuff cold. And then I started having my own kids. And I would literally retrain myself to notice the positives. I mean, I'd think, aw man, all I'm doing is focusing on their fighting while I'm trying to get dinner or they're dropping their dirty clothes in the living room or their -- I'm tripping over their toys. And that's what I would focus on, and I'd have to periodically

remind myself to thank them for clearing off their dishes after dinner or for doing something right away when I asked. You know, all of that. So you really do have to train yourself.

In fact, the best example I've come across of that -- I did a workshop in Kentucky last year, and the -- a school psychologist in the group, her son was in 2<sup>nd</sup> grade in an inner city, I think either Lexington or Louisville, Kentucky school. And she was not the school psychologist for that school, but the teacher in her son's class knew that she was a school psychologist and sort of said to her in passing, man, there are three like bad actors in my class I would love to be able to refer to the school psychologist. We've got some big problems here. She didn't do that. I'm sure limited resources for one. But here's what she did do. She took a piece of paper, probably graph paper, wrote the name of every kid in her class on the left-hand margin, put it on a clipboard, carried it with her everywhere around the class. Every time she gave any piece of corrective feedback to any kid, she put a checkmark next to their name. And then she went out of her way to give them ten pieces of positive feedback before the next piece of corrective. And the clipboard and the paper was the cue to her to remember to do that. This school psychologist said, you know, those behavior problems cleared up really fast, but not only that, by the end of the year -- she said her son had come into 2<sup>nd</sup> grade reading below grade level. He was reading above grade level and just flying high in terms of his own confidence. So the payoff not only came in terms of straightening up those kids with problems with impulse control or emotional control, but for everybody in the class.

I've had therapists use a similar strategy when they're working with parents. I had this wonderful therapist say -- in fact, she experimented with it to figure out what would work best. And so every day she'd have a parent sit down with their kid and just list three good things that kid did today in a notebook. She said the first time -- when she first designed it, she had them doing it before whoever the working parent was came home at the end of the day. So in a traditional family, it would be the mom sitting down with the kid and saying, okay, let's talk about three good things that happened today so we can share them with your dad. And then dad would come home and they would -- you know, they would celebrate those three things. But she said she found it even more powerful to do it as a bedtime routine so that those last five minutes before bed, they'd keep a notebook right by the bed, and it's the reflecting on the day. The mom is pointing out three positive things that happened that day and writing them down. It's right there. That's what the kid goes to bed with. And periodically you can review the notebook to just remind you, boy, here are some good things. And this therapist said, you know, if parents will use it, they'll see a tremendous improvement in behavior, and then they'll decide they don't

need it anymore so they'll stop doing it. The behavior problems will come back up. They'll reintroduce it. The behavior problems will go away again. We call that an ABAB design, I think, in terms of behavioral interventions. So it's not necessarily something that's going to cure the kid, but it means we're noticing the positive behaviors.

The misuse of praise is using those sort of global terms that kids feel like they have no control over, like praising a kid for being smart. I saw a kid -- a kindergartner several years ago who -- you know, in the first five minutes of my interview with the mom, she told me I don't know how many times how smart her kid was. And then she said, he's so smart. I don't understand. You know, the kindergarten teacher gives him an assignment. I know he's capable of doing it. It should be easy for him, and he's not doing it. She said, I don't understand why he's not doing it. I'm thinking, I think I know. And so you know, I did the KABC, which is a cognitive measure that goes from age three up to age 18. He was smart. His IQ was in the superior range. But when you give a kid, a five-year-old, a test that goes up to age 18, sooner or later they're going to run into something they don't know. And as soon as that happened, he just shut down. You know, and so he'd say things like, oh, that one's too hard or I can't do that or is that a high school question? Because I told him I was going to ask him some high school questions.

So when I met with the mom afterwards, and I'm usually not this blunt with parents, but I said, you have to stop calling your kid smart. It's making him really nervous. Because think of what's going on from the kid's perspective. He's hearing how smart he is from his mom, so he knows being smart is really, really important to his mom. So he doesn't want to do anything that's going to disrupt that assessment. So he's not going to take risks because then if he tries something and fails, then maybe he's not smart anymore. And then maybe his mom won't love him. And so I said to her, you can praise whatever you think being smart is. That's fine. Trying hard. Sticking with things long enough to get them done. Coming up with great solutions to a problem. Good thinking skills. All of that. But using that word smart is such a loaded expression.

So okay, let me make sure I'm on track here. Yeah, I am. Actually, let me stop here. Just any questions or comments about environmental modifications that, you know, people -- again, any questions? I want to try to -- okay, then I'll keep going. This reminds me. I have two sons. I mentioned that one has ADD. The other has a sleep disorder. I'm a psychologist. I have two kids. They both have problems. It took us a long time to figure out that my son has a sleep disorder, and in the process, I went to a lot of workshops on sleep. And one of the things I learned was there are two times in a 24-hour day when the human body wants to sleep. One is between midnight and six am and the other is between

two and four in the afternoon. So I'm not going to put pressure on myself to keep you guys awake, and I will certainly understand if some of you drift off because that very workshop that I learned that piece of information, by 2:30 that afternoon, I was out. So it was a great illustration of the point that he was making.

Okay, so let me move on to teaching. And here I actually added -- again, those of you who have downloaded the handout, I added a home one that I sometimes talk about, that I didn't include in your handout. But I know there are parents here. I actually also like it because it sort of walks you through the teaching process. So I'm going to talk about room cleaning briefly. And the -- what happens with kids with executive skill problems is the parent tells them to clean the room and the response from the kid is nothing. So if we want to teach the child how to clean their bedroom because basically room -- that's an open-ended task. You know, multiple possible ways to get the correct answer, basically. No obvious starting point. There might be an obvious endpoint to the task, but only to parents. At least, that's been my experience. Kids think the task is cleaned when they've done one piece of it or when one part of the room looks okay or when they've shoved everything under the bed. So what -- if you want to teach them, you know, basically you need to become a sort of external frontal lobe for your kid. And so basically this is, what does a good frontal lobe do? You know, it provides a plan, an organizational scheme, a set of directions. It monitors performance. It provides encouragement, motivation, or feedback about the success of the approach. Problem solves when something doesn't work, and it determines when the task is completed.

Okay, so what would that sound like? If we're going to walk a kid through a room cleaning, what would we say to them? Each one of these statements gets at another -- different executive skill. Let's start now. There's task initiation. Put your trucks in this box. Put your dirty clothes in the laundry. Put your books on the bookshelf. You know, there's the organizational scheme of the plan. There are two toys under the bed. Now we're doing some monitoring, that sort of metacognition. How am I doing? It doesn't look like all these toys will fit in that one box. We'll need to get another box. That's another metacognitive strategy. That's problem solving. When you finish, you can play with your friends. There's the motivator.

And I will say just to point out, and it -- probably most of you know this. Huge difference in terms of how you say this. When you finish, you can play with your friends, is way more effective than, you cannot play with your friends until you've finished cleaning your room. You know, that latter one, that sets up a power struggle and control issues. The first one acts as an energizer. As soon as you finish,

you get to play with your friends. And these other two things I've put up here are things that parents say. And I don't think they're particularly effective, but they're trying to motivate their kid. I know you hate doing this, but you're almost done, and then you'll feel great. I'm sure I remember my mom saying that to me, and I'm sure I remember thinking, mom, I'd feel great now if you weren't making me pick up my room. Isn't it nice to have all your work for the day done? Shut up, mom. Sorry. You can see I still have lingering feelings about my mom, her efforts to get me to pick up my bedroom.

Okay, so -- but sooner or later -- we don't want to have to walk our kids through bedroom cleaning forever, so we want to come up with some way of giving them the same information without having to be the direct agent. So we create a list, picture clues, audiotape, checklist, whatever, to cue the child. We still have to be there with whatever that -- whatever we've come up with because now we're no longer saying, you know, put your dirty clothes in the laundry. We're saying, look at your list. And lots of parents leave this out. They tell the kid what to do, what to do, what to do. I see this with morning routines all the time. You know, brush your teeth, get your backpack ready. But we never take it the next step, which is the transfer from our working memory to theirs. So look at your list is the beginning of that transfer, and then that next question, what do you need to do? That takes it one step further. So the child has to do more work, and we're doing less work at that point. When we say, what do you need to do?, they have to come up with an answer to that question. And the answer may vary depending on where the child is in the process. You know, so it could be, I need to look at my list. Or maybe they've internalized the list by now and they can say, I need to put my dirty clothes in the laundry. And then I often joke that by age 25, hopefully the transfer is complete and the child is now asking himself, so what do I need to do?

But actually, let me make actually a serious point with this and just use -- I realize it's anecdotal, but the problem is this is longitudinal research because I said these things take years and not months. My -- when my -- we diagnosed my son with an attention disorder at age 14. He was in 8<sup>th</sup> grade. If I had done any kind of assessment of executive skills in those days, he would have been -- he would have had a ton of weaknesses. There was no way I could tackle all of them. First of all, I didn't have the executive skill capacity to do that myself. But secondly, if you're hammering a kid for every possible executive skill weakness, they're going to feel terrible about themselves. So my thought was, okay, I've got four years. How am I going to get this kid through school and on to the next stage? Which, you know, he wanted to go to college, so that's what I assumed was where he was going. But I thought beyond that to think, what are the adult skills I really want him to get?

And so I decided to focus on homework: getting his homework done on time and remembering to hand it in. Because I thought that translated into adult job responsibilities, doing the tasks you're asked to do and meeting deadlines. And I thought, if I can get that much into him, you know, then I'll let other things fall by the wayside. And so every day when he came home from school from 8<sup>th</sup> grade through high school, I would say, okay, Aaron, what do you have to do? When are you going to do it? Those are the two questions I asked. What do you got to do? When are you going to do it? And he would pull out of his head or out of his agenda book or whatever the answers to those questions. And he got very good at time management, and he would tell me exactly when he was going to do something. He might need reminding that that's what he said he was going to do, but you know, he followed through.

He told me -- a couple years ago, he told me this funny story. It's funny how these stories come out, you know, way past the time. He said -- I mean, he was 30, I think, when he told me this story. He said, mom, every -- it feels like every day, at the end of every day until at least through the age of 25, at the end of the day, I would go through this mental checklist. What do I have to do? When am I going to do it? And that -- but it was more specific than that. It was like, okay, so let me see. Algebra, Spanish, history. I mean, he'd go through the high school homework assignments he had. You know, he graduated from college at age 22. He had three years that he didn't go to graduate school until age 26. So there were three years in there when he wasn't in school at all, but he's still going through this mental checklist of homework assignments. And he's telling me this story like, it was so irritating, mom, that I had this useless checklist in my head. And I'm listening. I'm thinking, yes. That tells me that he internalized the process. And that's why you've got to wait a long time sometimes to see the payoff on this.

You know, my heart goes out to parents -- and I've got several of them now who are, you know, bringing in middle school kids to see me. And they're desperate because their kids aren't remembering to hand in their homework or aren't remembering what they have for homework. And I'm thinking, man, you've got a ton of time. You know -- and they'll get there. But these parents often want to speed up the process, so -- so those of you who do work with teenagers and their parents, having them think about, what's that long-term outcome you really want to shoot for? And it will vary from parent to parent. I mean, interestingly enough, Aaron's best friend who he went to college with and actually roomed with for a couple years, his mom had a whole different set of priorities. Jeff learned somewhere in middle school that anything that was on his bedroom floor when he left for school in the morning



would be donated to Goodwill by the afternoon. Jeff was very neat. I don't know how he and Aaron tolerated each other for two years in college as roommates because I gave up on room cleaning very early in the process. It did take Jeff five years to graduate from college and it took Aaron only four, so I mean, there are ramifications to whatever priorities you set. But it's helpful to have that thought -- that discussion and that thought process.

Okay, let me talk about another teaching strategy: teaching students how to pay attention. This one came out of two separate strands for me. One was experiential and the other was research-based. I may have mentioned it earlier. I'm not sure I did. I went to the University of Virginia way back, and they had an Institute on Learning Disabilities at the time that I was there. This research was actually done after I left, but they did a -- they taught kids to monitor whether or not they were paying attention. And what they found is when they could teach kids to monitor that, they worked much more efficiently, and actually probably much more accurately, as well. And so part of this is incorporating that.

The other -- I tested a 1<sup>st</sup>-grader a while back, actually many years ago now. Pretty significant attention problems. I didn't get to meet with the school until 2<sup>nd</sup> grade, so I sat down at the beginning of 2<sup>nd</sup> grade with this girl -- not the girl. The mom and the teacher and the principal, and I explained how -- pretty significant attention problems. We're going to have to do something for the kid. And the teacher said, well, you know, I begin every year by teaching my class how to pay attention. And I'd never heard a teacher say that to me, so I said, well, how do you do that? And she explained that she used one particular daily activity and built in learning how to pay attention into that activity. The one she chose was when kids came in from recess after lunch, she would sit and read one chapter from a chapter book. That's a typical 2<sup>nd</sup> grade activity as a way to sort of ease into the afternoon. But before she started reading, she would talk to the kids about, okay, so what is good listening like? You know, what does paying attention look like?

And so from that, I sort of came up with this set of strategies which involved having a classroom discussion about what paying attention is, why it's important, asking kids, what does good paying attention look like?, talking about what might be acceptable behavior during classroom instruction. I include this because that teacher, she was really old school. She had this notion that kids should be sitting with their hands folded while they're listening to the story. And I'm saying, you know, a lot of kids with ADD, that's not going to work. I keep fidget toys in my office, and when I'm assessing kids, I let them play with the fidget toys. And my question is, is it making it easier or harder for them to pay attention? More often than not, when they have something in their hands, they do better. Not always.

Sometimes I have to take them away. And actually, there's some really nice research on doodling that showed -- done with high school/college students showing that if you ask kids to listen to a lecture and tell one half of the group just to listen to the lecture and not do anything and the other half to doodle while they're listening, and then you test them on the content, the ones who doodled do much better -- retain more of the information. And I still have high school kids who tell me they get in trouble for doodling, and I want to pull out my grad school notebooks and say, look at this. Because that's how I got through graduate school.

So develop a brief description of what paying attention looks like, pick a time of day to practice it, and then figure out how you're going to practice it. And there are different ways. You could set a kitchen timer at random intervals, and whenever the bell goes off, kids ask themselves, was I paying attention?, using a checklist like this. And they check off yes or no. You could use an electronic beep tape. ADD Warehouse sells one. There's an iPhone app called Interval Minder that does that, and you can determine how close or how far apart you want the tones to sound. And so you just -- during that one activity, while they're doing that activity, they're also practicing monitoring their attention. I saw a study a couple years ago when I was doing my homework chapter where they used this approach in a boys home for disruptive boys, like middle schools kids. And they built this into their afternoon homework so that whenever they were doing homework, they were -- also had this self-monitoring tape going. And they found these kids did much better in terms of working efficiently and actually accurately. And so obviously practice, debrief. If you need to set a goal or add a reinforcer -- I've used it with 2<sup>nd</sup>-graders. They love this stuff. They just think it's intriguing.

Okay, now I'm going to give you an organizational -- an example of teaching organizational skills. This is a whole school example. And I have Curtis Stevens' email address, but someone recently told me it's not accurate, which makes me believe he's no longer at Salina South Middle School. He gave this to me a couple years ago and gave me permission to use it. So you may not be able to track him down, but hopefully I'll give you enough information -- and you can certainly get the PowerPoint from me. They -- he designed a system for teaching middle school kids how to get organized. And it really addresses two issues: organization and working memory. And so this is some -- part of the training materials from the school that he was working in. So they begin the year by actually training kids in the organizational system. And they teach kids how they're going to stay organized, you know, with some key principles.

First of all, you have to have a binder that you -- where you keep all your materials, and you have to have it with you at all times. You have to fill out your assignment book. And you have to keep

papers where they can easily be found, so obviously you have to be organized about that, with two basic goals: completing the work and turning it in. There were five basic rules of the binder. First of all, one binder for everything, so not separate notebooks for different subjects. You divide it by tabs. You trash assignments you no longer need. You put due dates on all assignments. You have a pocket for incomplete homework and a pocket for completed homework. And you keep it with you all the time. Obviously, this is a whole school process, but I think you could tailor it to individual kids, those of you who work with individual kids.

So that's the kind of binder with those pockets in the front and back. One's labeled incomplete homework and the other completed homework. There are the tabs for each subject. The binder should also have this plastic pouch right -- fits right in the binder with all of the materials kids need to bring to class with them. There's loose-leaf paper. There's the planner, which also has three holes in it. So this, too, goes in the binder. And the rule is the planner's filled out weekly on Mondays. So what is this doing? This is helping teachers get organized, too, because they have to know what the week's homework assignments are going to be. So every Monday, everybody opens their assignment book and writes down the week's assignments for that class. As soon as you get an assignment, you write the due date right at the top, and then you place it in the incomplete homework pocket. And you arrange them by due date so the one that's due first is the one that hits you in the face every time you open the notebook. And then as soon as you finish, you just move it to the back. So homework is always in one of two places, and then you hand it in. And the point they're trying to make with kids -- kids often feel like grades are outside of their control. And what they teach them is, you know, they think that -- this is Stephen Covey's notion, that grades go from feeling out of their control to feeling as within their control because they're organized.

Another key piece of it is that twice a week on Tuesdays and Wednesdays, they have a binder check where everybody does that. Teachers are responsible for it. On weekends, the family and the student are responsible. Obviously, you can imagine where there's some slippage. But at any rate, they're trying it. And it's not just a random binder check. They're looking at five things. So there are five elements that need to be there: due dates, no stuffing, all the materials they need, the planner is filled out, and they've got the incomplete and complete homework section. They get points for each one, and I assume the points go into affecting their report card grade, although that's the one piece I'm not sure of on that. So again, you could build in just this checklist piece with kids. Parents could do it. They could tie those points into a reinforcer. So that's an adaptation for an individual kid.

And I'm going to -- I think I have time to do this. I'm going to quickly just talk about a child with written expression problems. This is not so much a teaching strategy -- well, it's a set of steps. It's not explicit, but I just want to give you an example because this is -- this was not something I came up with, but it was a kid that I worked with. And I referred him to a colleague, actually a former student of mine at a -- when I taught a class at University of New Hampshire. He -- this was a kid who -- he used a curriculum-based measurement approach. He used a graph. This was a kid, 2<sup>nd</sup>-grade kid, who when I gave him writing to do, he slouched over the desk, sighed deeply. An OT would have immediately identified all that muscle -- you know, what is that? Low muscle tone. All of that. You know, I couldn't get him to do any writing. I actually walked out of the room at one point because I felt like he was putting on a show for me and I thought, well, maybe if I'm not there, he'll do the writing. I had such a hard time getting him to put even one sentence down on paper. I mean, his mom was worried about writing, and I thought, you know, 2<sup>nd</sup> grade may be a little early to be worried about writing. When I saw how he was reacting to my writing assignment, I thought, no, the mom has good reason to be concerned. So I'd seen him towards the end of 2<sup>nd</sup> grade and recommended that she hire a tutor over the summer to work with him. Because otherwise he was bright. He wasn't going to qualify for special ed. And I thought, maybe we can use the summer to try to work this out.

So every -- I think the tutor met with him twice a week over the summer, and each time, whatever writing they did, they counted up how many words the kid wrote. And they used those little stickers as -- to create a bar graph. Each sticker was one word, so you can see in that first column on the left, he wrote 17 words. So one of the stickers was cut in half. And you can see he actually -- by the end, he'd made some good progress. So the first tutoring lesson -- John, his name, was the tutor. John just had him write any word he could think of. In fact, I think -- it looks like if you look at this, he accepted words that weren't words, just getting -- and it looks like this kid needed some structure to get started, so he suggested, think of rhyming words. And so you see that there. And then they counted it up. You can see the 17 written there. So that's all they did in that first session. You know, the second session, he took it the next step. Let's start with a picture and just write words describing this car. And then let's take those words and turn them into two sentences. They counted that up. That was the next bar on the graph. Third time, they had him draw a picture and then him create a story to go with it. And I don't know whether there's some missing times in here, but this looks like it was five sessions they get after this. There may have been some intervening ones. Do not read what he wrote because he's got lots of explosions and if you're at all psychoanalytic, you may think, what is wrong with this kid? I'm thinking, hey, he's putting words down on paper. It's a coherent story. Okay, so it's a little violent. But anyway.

But I -- you know, I was so impressed with how much progress -- yeah, yeah, yeah. Don't look at the end. The baby was saved. And he's written 82 words. Okay, we're moving on. Okay.

So I'm not going to go through this piece by piece, but I just want to focus on a couple of the key -- the key steps to teaching a skill. You know, identify the problem behavior, set a goal. But number three and number four: this is the teaching strategy. Outline the steps that the child needs to follow in order to achieve the goal. And whenever you can, turn those steps into a list, a checklist, or a short list of rules to be followed. So for instance, here's a bedroom cleaning checklist. This is in Smart But Scattered. And we have a column there with reminder -- so the parents can track how many reminders it took the child to do each step. This helps them know when they can retreat, when they can fade the process because the fewer reminders, the more independent the kid is with room cleaning. Okay.

I will tell you about this in a minute, but let me say that because this -- I -- you know, I've become a strong advocate of checklists, in part because I find them so helpful for me. But in the process of talking about checklists, I've had people give me wonderful examples. You know, one of my questions -- one question I often get is, how young can you use -- incorporate checklists into kids' lives? I had someone in my workshop last week who remembered at the age of four she was grading her own checklist. That -- four is the youngest I've heard of. But I had 1<sup>st</sup>-grade teachers who tell -- two 1<sup>st</sup>-grade teachers a couple years ago when I asked that question, how young? Because I was thinking maybe 4<sup>th</sup>, 5<sup>th</sup> grade. They said, no. You know what? We're teaching kids to write sentences in 1<sup>st</sup> grade, and what we've found is they were routinely forgetting to start them with capitals and end them with periods. So we created a two-point checklist. Number one: I will start every -- I started every sentence with a capital letter. Number two: I ended every sentence with a period. And when they assigned a writing task, they had them do the writing and then fill out the checklist. So that sort of forced them to go back and proofread. And they said, it's amazing. These kids are now writing sentences with capital letters and ending them with periods.

I had a 5<sup>th</sup>-grade math teacher. He didn't even realize what he was doing was creating a checklist. Every day on the same space on his blackboard, he listed five things kids needed to bring to math class. You know, number one: math book. Number two: workbook. Number three: homework. Number four: pencil. Number five: PMA. I said, what's PMA? He said, positive math attitude, which I thought was great. So many kids, even by 5<sup>th</sup> grade, think they hate math. But he said, you know, every - - he'd have to put the list up anew every day because he used all the space on the blackboard or the whiteboard or whatever. One day, he inadvertently left off number five. All day long, kids would say,

hey, Mr. Clark. You left off PMA. And that's when he realized they were incorporating that checklist. That it was sinking in.

And then let me tell you about Jacob. Jacob found a pen and wanted to turn himself into a tiger, so that's why he's got these funny pen marks on his face. I met his dad last September when I was in Norway doing a -- does he look Norwegian? When I was doing a seminar. And his dad is actually American. He's a special ed professor at a university in southern Norway. His mom's Norwegian, a pediatrician. And Jacob, although he looks adorable, has huge problems on the playground. Gets into fights and altercations with peers on the playground frequently. His dad thinks he may be on the spectrum, although Norway doesn't really test for that. But here's part of his evidence. This was Jacob when he was younger lining up all his toys, you know, his toy animals. Not playing with them, just lining them up. So I mean, this guy felt so bad because his dad's a special ed professor, mom's a pediatrician, and the teachers are pulling him into school on a regular basis saying, we've got a problem with Jacob. He's getting into fights on the playground. We need to do something. And so what they came up with eventually was some kind of smiley face system where Jacob would earn smiley faces for getting through playground -- recess successfully.

Somewhere in this process, and I'm not sure whether it was before or after the smiley face got set up, Jacob came home from school one day after having had another bad day on the playground. And he immediately went to his bedroom and sat down and started writing. He's seven at the time that this story took place. This was unusual for him, but his parents sort of stood back and said, okay, what do you think he's writing? And they just let him write. And after a few minutes, he came downstairs and handed this paper to his parents and said, this is my plan, basically. And let me show you the plan. I speak Norwegian because I spent my senior year in high school there, so I know what he said. It's a three-step plan for solving the problems on the playground. Number one: talk to an adult. Number two: say stop. Number three: just walk away. He came up with that on his own. You know, so I think, you know, a seven-year-old on the spectrum can come up with a checklist for handling a playground incidence?

And you know, if I were involved in this, I would send this checklist to school with Jacob. And just before recess, I'd have the teacher, you know, get down at his level and say, okay, Jacob. Let's go over this list. What's going to happen if one of your friends bugs you on the playground? Well, number one, I'll talk to an adult. Yeah? I mean, what if the adult's not around? I'll ask him to stop. And what's the third option? Just walk away. And so you rehearse it with -- there's the rehearsal. You rehearse it

with him. He's got three options. And you send them out to play, and if he's had a good recess, man, you give him lots of positive reinforcement for following his checklist or for not getting in any trouble. So I really think there's a ton of potential around checklists.

And I also think -- you know, I used to think that we give kids checklists until they internalize it, and then we can throw the checklist away. I'm now thinking, you know, this life in the 21<sup>st</sup> century is so complex that I think we need to model using checklists. We need to get kids to design their own checklist with what's on it. We need to think about, how can you incorporate your smartphone or your iPad into a checklist? What can we do to make it real? And you know, I had a woman in a workshop a couple years ago who talked about how pilots are trained. I mean, there's no plane that takes off in this country without pilots going through a safety checklist. She said her husband went through that training, and they told him in no uncertain terms, do not memorize the checklist. Which I -- you know, had never occurred to me. But if it's a safety checklist, what if you forgot to close the cargo door? You know, and the plane takes off and then it crashes. So you know, we can share these stories with kids, you know, talk about fighter pilots rather than airline pilots. But just let them know, this is what we do to survive. It's impossible for us to remember everything we have to remember.

But we can't just hand them the checklist and say, okay, run with it. I mean, we couldn't ask Jacob to go to school with his checklist and expect him to follow it. So we prompt the child to perform each step in the checklist. We observe them. We give them feedback. We praise them. And then ultimately, we change the checklist as needed, drop off items, add new ones, and then fade the supervision so that we're prompting them less and less.

Okay, let me give you one more teaching example here. And this is a case of -- one of Dick's cases. This is a kid on the spectrum, and he's got problems with the three behavior regulation issues: response inhibition, emotional control, and flexibility. And the issue is when he's given an assignment requiring some kind of production, math or writing -- Dick is very behavioral. He, too, is an applied behavior analyst. Does one more of the following more than 50% of the time: complains loudly or refuses to do the task, I'm not doing this stupid paper, pushes the paper off the desk or crumples it, roams around the room and doesn't respond to teacher directions. If you can picture what this is like, this is pretty disruptive behavior. This kid is coded. He has a full-time para assigned to him to help manage the behavior more than anything else. So that actually made it easier to put in place the intervention. The behavior happens whether or not Max is able to do the task.

And of course, step one with these kids with this kind of behavior is make sure they can actually do what you've asked them to do. And I'll just bring you back to open-ended tasks. Look where kids are melting down. What kinds of tasks do they agree to do and what kinds of tasks do they throw tantrums on? If it's an open-ended task, then question one is, do they really know how to do that? Because they may not. Obviously the more difficult the task, the more disruptive the behavior for Max. Dick's a big believer in involving the child in developing the intervention, so he definitely helped identify the incentives, but also -- there's another piece that he was really involved in. I'll explain that in a minute.

So the first thing we did was create a social story. I know all you guys know what social stories are. This one follows Carol Gray's rules of identifying what the problem is and why it's a problem and then sort of capturing how the problem will be handled. So this is the intervention in a nutshell, basically. They also created a hard times board, and this is in our books, *Smart But Scattered*. This is something that Dick and the May Institute autism specialists created. It's really a versatile intervention strategy. It can work for all kinds of things. And it's got three elements to it. The reason they call it a hard times board? It's really a sort of non-pejorative way of talking to a kid and saying, oh, it looks like you're having a hard time. So you're not saying, man, you're having trouble controlling your temper again. It's, it looks like you're having a hard time. Maybe you should check your hard times board.

And so there are three elements to it. First of all, the first element is identifying the triggers. You know, in Max's case -- you can use it for anxiety as well. In Max's case, it's what makes me mad, when I get a math or writing paper to do. The second element is the can't-dos. What is Max not allowed to do? I can't complain in a loud voice. I can't crumple or tear up my paper. I can't not listen to my teacher. And then finally when I'm having a hard time, what can I do? These are the coping strategies. I can ask for help or I can take a break. Dick has a bunch of these different strategies, and they're all boiled down to two words. Help/break is this one. You know, the kids he works with with problems with emotional regulation, they all know that whenever they hit something that's frustrating, they can either ask for help or they can take a break. So there are those safety valves built into their day. Now you have to control the breaks so that they're not using that as an escape or avoidance, and you'll see how this intervention strategy took that into account.

They put in place a number of environmental modifications. This intervention, by the way, incorporates all three of our strategies. So these are the environmental modifications: shorter tasks with check-in breaks, after work or directions are given, an adult checks with him immediately to ask if he understands or needs help. Kids who are inflexible, they'll look at an assignment and they'll make a snap



decision about whether they think they can do it or not. If they think they can't, then they think they're in trouble and they melt down or blow up. So by getting someone right over there to immediately -- you sort of short-circuit that whole process.

They also got Max's agreement that if he begins to get upset and does not remember to use his hard times board, he'll accept a cue from an adult to make a choice from it. And you need to build that in in advance because otherwise, Max is going to think you're nagging him. But if you get his agreement -- remember, if you don't remember, I'm going to remind you, okay? Is that all right with you? Are we understood about that? They had a timeout rule. You know, if he disrupted the class, a two-minute break or as much time as he needs to recover. But if it takes him a long time to recover, Max understands that the incomplete work is going to be finished on his time, either during free time or recess -- Dick prefers to keep kids after school if he can because kids need to get up and run around and have that. But for some kids like Max, you know, they don't want to be in school a minute longer than they have to, and so knowing that they're going to have to finish the work after school is what helps them recover from their upset faster. Okay.

They had an incentive system. This is fairly elaborate. The better he did, the more points he got. The points translated into minutes of computer time, which was his preferred activity. If he had to leave the class, zero points. So you can see what that looks like. Now this is -- this piece often gets sort of short shrift with a lot of behavioral interventions. They rehearsed it with him. They took him into the classroom because that's what Barkley would call the point of performance, you know, where the intervention's going to be implemented. Not when the class was there, but like during lunch or recess. And in the beginning, the para played Max in a role-play and the teacher played the teacher. And Max watched. And they played every possible scenario. You know, so the para played Max doing all his work without any trouble, played Max getting a little upset and using -- thinking, oh, I have to check my hard times board, getting upset and needing a cue to -- needing time out. All of those things so Max could see exactly what would happen as a consequence of every possible behavior on his part.

And then once he'd seen it all played out and they felt like he understood that, they did the role-play again. And this time, Max played himself. So what's going on here? We're building myelin. I mean, first of all, we're taking out all the surprises because these kids don't do well with surprises. But it's that practice, again. So Max knows exactly what's going to -- so it's almost automatic. And then they agreed on a start time for the plan. And at the beginning of the day and returning from lunch, they read the

social story because that had the plan in it. And he had math right after lunch, so that was a perfect time to read it.

So where's the teaching strategy in this whole process? The hard times board actually ends up being the teaching strategy. Max may always have trouble with emotional control. You know, some of these executive skills feel like they're almost hardwired, so Max may always have trouble with emotional control. But if we can teach him these three things, figure out what the triggers are, what sets you off?, figure out what you're not allowed to do -- you know, at age eight it's you can't complain in a loud voice. You know, at age 20 it's, I can't hit my girlfriend. And then what can you do? What's the coping strategy? Here's how I can recover from my upset. Ask for help, take a break, or -- that, too, may change at different ages. If we can get kids to internalize that sort of analytic process, then we've taught them strategies for managing their emotions. Here we go again. Okay.

And now I just want to -- with whatever time we have left, I want to make a couple other points. I want to talk about incentives. Oops, no, I'm not going to talk about that. Let's see if I can get to the -- and I just want to think for a minute about the whole issue around incentives. You know, I've been in this business long enough to see that we've really moved along in terms of our understanding of the power of incentives, and I certainly know when I first got out of grad school, there was a tremendous resistance to using tangible reinforcers. And I still have some parents say to me, you know, why should I pay my kid to do something which he should do on his own? You know, I don't pay my other kids. And although that's become less of an issue, my problem now with parents is they just don't know how to do this -- do this well. But what I tell parents who are resistant to that is, basically -- well, two things that incentives do: they increase the child's motivation to practice, you know, and it's well worth it. If we can get the kid to practice this tedious skill over and over again so it becomes automatic -- and once it becomes automatic, it's effortless. Then the incentive is worth the price. But the other thing incentives do is they teach delayed gratification. If you have to wait to get the reward, you're learning how to wait. And that's key.

You know, I mentioned way back this morning that response inhibition is the first executive skill to emerge. It's also the most critical. If kids don't have response inhibition, as I said, all the other executive skills aren't going to evolve. But there are all sorts of other life opportunities that aren't going to be available to them because they can't wait. And so if they can learn to wait, then you know, that helps them with everything else. And I -- you know, I think of -- I mean, I hear -- you probably know this, but you may not know the details. You know, how important is impulse control or the ability to delay

gratification? It has huge ramifications. And we can differentiate at age four kids who are good at delayed gratification and kids who aren't.

How many of -- how many of you are familiar with the marshmallow test? Okay. About half of you. I'll briefly describe it for those of you who aren't. And even those of you who are may not realize the ultimate outcome. If you go to -- if you want to see the marshmallow test, go to YouTube and just type in marshmallow test. You'll find wonderful examples. This guy named Walter Mischel who's a personality psychologist way back -- I read this story when I was in grad school, and that was in the mid-70s. He got curious to know whether four-year-olds had the ability to delay gratification. And so he took them one at a time into a lab room, and he had a plate with a marshmallow on it. And he said to the little four-year-olds, see this marshmallow? It's yours. You can eat it. But I'll tell you what. I have to leave for a few minutes. And you know, I'm just going to put the marshmallow here on this table. When I come back, if this marshmallow's still here, I'll give you a second marshmallow. So you can have two marshmallows, not just one. So then he walks out of the room and behind a one-way mirror to watch what happens.

And this is where the YouTube videos are just priceless because these -- what these kids do to try to avoid eating the marshmallow or what happens when they can't -- I mean, my favorite is -- I remember checking these out a few years ago. This little blonde, blue-eyed, pixie-haired little girl holding this plate with a marshmallow on it. And she's just looking at it. And she gets closer and closer to it. And then she smells it. And then she sticks out her tongue and she licks it. And then she takes a little nibble of it, and then she pops it in her mouth. Now the researchers stayed out of the room for 15 minutes. The average four-year-old could wait seven minutes. So you can see most kids weren't able to wait that long. It's also amusing to see what kids -- the kids who could wait, what were they doing? They were turning their back on it so they weren't seeing it. They were dancing around the room. There wasn't much in the room to distract them so they were creating whatever distractions they could, which interestingly enough is a strategy. We often think about, you know, don't let it distract you. Distracting yourself when you really want something actually is a good coping strategy. Or they'd say things like, don't eat the marshmallow. Don't eat the marshmallow. Self-talk. So all of those strategies.

But here's the really interesting part of the research. Mischel came back like 12 years later and said, what happened to these kids? Because they had a group of kids who were very good at delaying gratification at age four and a group of kids who weren't. So he looked to see what these kids looked like in high school. He looked at all kinds of things. They looked at report card grades, GPA, they looked at

discipline infractions in school, they looked at kids who'd gotten in trouble with the law, they interviewed parents, they interviewed teachers, they looked at SAT scores. And the one I particularly remember is the kids who were able to delay gratification at age four -- and that was the controlling variable. Not IQ, SES, or anything else. The kids who were able to delay gratification at age four, their SAT scores were on average 300 points higher than the kids who couldn't delay gratification. So that just shows the power of delayed gratification by itself.

In fact, people have started trying to incorporate that into -- they -- using the marshmallow test just to help kids understand delayed gratification, even with middle school. Education Week did an article several months ago where they were using -- incorporating that into a teaching lesson on self-control. So that's another one of Dick's -- you know, he teaches stop and he teaches wait. So if kids want something, he says, yeah, you can have that, but we just have to wait a bit. That's the kind of thing which parents could incorporate into, you know, everyday life. You know, if a kid wants something right now, can they wait two minutes? You know, can they wait a little longer? And that waiting has some value to it.

Now in terms of what kinds of incentives -- you know, there are elaborate incentive plans. There are simple ones. You know, my preference when I can get away with it is simple ones, but Max's plan is an elaborate one. Here's an example of an elaborate one which I set up last year. I had a kid -- a middle-school kid who -- very bright kid with an attention disorder who was pretty half-assed in terms of his approach to homework. You know, he'd forget to do it. He'd forget to hand it in. He'd do poor-quality homework. It was driving his parents crazy because they wanted him to attend a fairly rigorous and difficult to get into parochial school for high school. And they were worried that his grades were not going to get him into that school. The kid wanted to go to the school, too, but not enough to really focus on bringing his grades up.

But -- so I met with the kid and with his parents, and we worked out a system whereby he could earn points for a variety of good study habits. He -- and between his mom and me -- the kid was involved, too. We did it with him, but it was the mom and me trying to figure out how this would exactly look. She was very good. He got, you know, five points for handing in his homework every day of the week. He got -- if the homework was graded for quality, he got extra points for high-quality homework. He got points for grades on tests. The more -- the higher the grade on the test, the more points he got. So you know, a B- would get him five points, a B would get him ten, a B+ would get him 15. And our thought with all of this -- I mean, that -- it was not to be mercenary about it, but our thought was -- we

thought he had the skills to study for tests or to remember to hand in his homework. We wanted him to practice it, though. And so if he could see the payoff -- and the payoff was he wanted a smartphone. His parents -- his mom was a nurse. His dad was a lawyer. So they obviously could afford it. But they didn't want to just hand him the smartphone. They wanted him to earn it. So that was the deal.

The mom and I figured out -- we wanted it to take ten weeks for him to earn that, but he needed daily feedback about his progress. So you know, we had a bar graph. And actually once a week on Saturday, the kid and his mom sat down and calculated how many points he'd earned that week, and they created a -- you know those -- like the United Fund, that thermometer thing where you could show it -- yeah. So it showed him getting closer to the goal. Actually, we often recommend that you take a picture of whatever the prize is so that they can see and use that as the bar graph to show that they're earning the prize. What was -- what I loved about this is this kid had a phone. It was not a smartphone, and the screen didn't work. So -- but he texted his friends all the time, so every time he pulled out his phone to text his friends, he was like texting blind. He couldn't see whether -- what words he was writing. And so he was obviously pretty good because he -- because somehow managed to maintain contact with his friends. But every time he used his phone, it just reminded him how much he hated that phone and how much he wanted a smartphone. So there was the incentive that -- you know, kids text a gazillion times a day. So every time he pulled out that phone, it was a reminder.

And so we had it. We basically had a spreadsheet where we tracked his grades. That's an elaborate system. He earned the phone, and then the next step was -- and he improved. I mean, his grades went from -- he was averaging C's, C-minuses to the -- as soon as we put it in, he was earning -- in some classes, he was earning all A's. So that was just the proof for us that he could do it. He needed an incentive for -- to use those skills over time. And then as soon as he earned the phone, then we created another plan for him to keep the phone. So he had to do something in order to maintain the account actually, basically. So that's a pretty elaborate system. As I say, when I -- whenever I can get away with it, I prefer sort of simple incentives. You know, giving the child something to look forward to when the effortful task is done.

You know, one of my favorites because it's so powerful, especially -- when parents decide that they're not going to let kids play videogames Monday through Friday, which, you know, I applaud them for doing that, but then there are kids who just hate doing their homework. So you know, I get parents to agree that if they get their homework done by a certain hour with quality indicators if you need to build that in, and they don't complain, then they can play videogames for half an hour that night. Man,

that's powerful. The hardest ones are those kids who have everything whose parents are used to letting them have everything without any sort of rules involved. And then in order for that to work, they have to take that all away and build it back in again. And that's -- it's just much harder to do.

Alternating between preferred and non-preferred activities. Kids on the spectrum, this is Dick's thing. First work, then play. First work, then play. And a variation on that is -- I had lunch with a school psychologist in Tucson a couple years ago who was working in their autism spectrum program. And they had just purchased a ton of iPads for the autism spectrum program. You know, now that seems to be fairly standard. I am absolutely convinced that iPads are going to change, you know, the potential for kids on the spectrum. They just take to those things. You know, it makes me wonder, what was Steve Jobs' mind like that he could conceptualize an instrument that was just so perfectly suited to kids on the spectrum? But in that program, they all -- they varied this. It was first work, then iPad. First work, then iPad. And they only put educational stuff on the iPads, so kids were still working when they earned the iPad.

Building in frequent short breaks. And again, sometimes we under -- we make them do too much work and make the breaks too short. You know, depending on the severity of the problem, you may need -- you know, breaks could come every ten minutes and last five minutes. And just in connection with that, you know, I continue to learn stuff from my son. You know, 33 years old. I can still -- you know, he comes to visit and he pulls out his smartphone and he's fiddling with that the entire time. I mean, it's endlessly entertaining for him. And so I said to him at one point, Aaron, obviously you still have some attentional issues. How do you manage on the job? What do you do? Now first of all, he has a job that's ideally suited to him. He's an extrovert. He's a manager. He has a department working for him. He's spending all day interacting with people. That's perfect for him. But when he has to get work down, he said, mom, I work in spurts. You know, I will hyper-focus for -- in ten-minute bursts. And I just -- I mean, that's good. That's how he got through high school, working in ten-minute bursts. And you know, I'm pleased to hear that you can be a successful adult with an attention span of ten minutes.

But it's how he does it. What he didn't have when he was in high school was the ability to -- he'd work for ten minutes and then he'd take endless breaks. So the self-control comes in to being able to put yourself back to work for, you know, the next burst of ten minutes. But I think that's -- you know, that shows some insight. And that's the kind of conversation we can be having with kids. How long's your attention span? And actually, this is one of the variations -- you know, Aaron got through high school by, you know, watching T.V. and doing his homework at the same time or -- and it would have

been even worse today. He would have been multitasking even more so. And you know, at the time, I thought, the work is so tedious for him, if it will get him through the homework, you know, I can live with that.

Now because of things like texting and Facebook and that stuff and what we know about multitasking, I think it's much more dangerous to let kids try to multitask while they're doing their homework. So I've now started talking with kids and parents about technology breaks. You know, work for 15 minutes and take a five-minute technology break as opposed to, oh, you know, whenever that ding comes through that says you've gotten a text or another email or another Facebook notification. You know, shut that down. Put -- someone told me, yeah, put your smartphone on airplane mode so you don't hear those texts coming in. But get kids to agree -- good. And we're going to stop soon anyway. Get kids to agree how long they think they can go before they need a technology break, and then get them to agree, how long does that break need to be? And then say, okay, so you're going to take -- you're going to work for ten minutes and take a five-minute technology break. Let's look at all the work you have to do tonight. What time are you going to bed? Because there's the whole time management piece, as well. So you can help them sort that out, you know, from a parent's perspective.

Okay. There's one other point I want to make, and then we'll stop. And this was -- this is the notion of effortful work. This was another one of my light bulbs along with open-ended tasks. And that is -- and what's the definition of effortful work? Certainly any task that we give a kid to do that they -- is difficult for them is effortful. There's a ton of easy tasks out there that they see as effortful. And to illustrate that, I want you to think about chores. You know, think about the chores you have to do, you know, after you get home from work or on the weekends to keep the house going. And think about them on a scale from one to ten with, you know, eight/nine/ten chores being chores you hate to do. They -- you know, they're -- they feel incredibly effortful to you. You put them off as long as possible. You put them on someone else's chore list. You know, you pay someone to do them. Or maybe they never get done. So that's an eight/nine/ten chore. Now think about one/two/three chores. Those are chores that you actually don't mind doing. You know, it could be even relaxing. And when you have this list of chores to do, it tends to be the ones you start with. And you may even look forward to doing them as a break from, you know, some other things that you have to do. So those are two sets of chores.

Let's start with the eight/nine/ten chores. Can somebody throw something out? What's an eight/nine/ten chore for somebody in here? Say that again? Grocery shopping. Okay. The laundry. That one comes up routinely. The laundry is a ten. Okay, what's another one? Dishes, doing the dishes. Okay.

**AUDIENCE MEMBER:** Cleaning the refrigerator.

**DR. PEG DAWSON:** Yes. I love that one, and I never think about that. And then I realize, man, I put that off as long as I can. I mean, way longer than I should. Okay. So now we've got some variety there. Now think of one/two/three chores. What would be a one/two/three chore for someone? What did you say? Vacuuming? Okay. What's another one. Making lunch. That's the one I was waiting for. Laundry. This comes up routinely. So think of that. You know, some people see laundry as an eight. In fact, this woman here said it was a ten. So it's an eight/nine/ten chore for some people. For other people, it's a one/two/three chore. There's nothing about laundry itself that predicts, you know, whether it's a one or a ten. It's our own subjective reaction to that that totally determines it. You know, my colleague Dick will -- says, you know, there's a cottage industry in here somewhere. You know, the -- you two people. One of you hates doing laundry. The other loves it. You guys need to do each other's tasks.

But -- and the same applies to kids. You know, we look at that -- we've got a son who's great at math, and he's dragging his feet doing his math. And we're thinking, what is the problem? You could do this in five minutes flat. Well, for that kid, you know, doing his math is like cleaning the refrigerator or cleaning the toilets or whatever. So we have to sort of at least respect what it feels like from their perspective. And so now this is the next step I take in that process when I'm working with kids. And I'll ask kids that same thing. On a one to ten scale, where do you put math? Oh, math is an eight. Math homework is an eight. So the next question is, what could you do to make that math homework a three? How could you alter the task?

So let me ask you this. Those eight/nine/ten chores -- well, since people are yelling out and I can't hear, I'm going to tell you what people tell me. When I say, you know, eight/nine/ten chore, what do you do to modify it?, you know, I get all kinds of answers. I listen to music while I'm doing it. I talk with my mother on the phone. It kills two birds with one stone. I break it down into small pieces. I start with that. You know, whatever it is. It varies. In Minnesota a couple years ago, I was doing this exercise. And a couple women in the front row were really laughing. And so I turned to them. I said, what's this? And one said to the other, she drinks. And I said, while you're doing the task or as a reward for getting it done? She said, both. So we have to be careful in terms of what the intervention strategies are, but I do think we can have that conversation with kids. You know, what could we do to turn an eight into a three? Because -- and share with them what we do. Because I -- you know, I really think kids think that adults have it easy because no ones gives them homework to do. But in fact, you know, there's a ton of



stuff which we as adults have to do which is not fun to do. And we have to somehow get through it. So we can share those strategies.

Okay. I'm going to start -- stop there. Actually, it's just about the right time anyway. I'll be picking up if people have questions they want to ask while I'm picking up, that's fine. Thanks a lot.