How to Train the Trainer of the Brain Transcript

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Introduction to Brain Training and the Cerebellum

Once in a while there's technology that comes along that are really industry disruptors. And although I've talked to a lot of these companies, this one in particular raises my eyebrow quite a bit because of how impactful it actually can be.

So today we're gonna talk about the idea that the brain can be trained. So we understand how the brain can be trained. But how do we go about doing it?

Is it listening to music? Is it looking at different things? But what about movement? What about specific movements? It connects different parts of the brain.

And that's what we're going to get into today. So today I'm interviewing Winfred Dorr, a British entrepreneur who's created multiple successful companies and collaborates with neurosciences and cognitive psychologists, Harvard and Sheffield University and others as well.

And this resulted in creation of a physical exercise program that's designed to really stimulate every part of the brain that's responsive for, what we become natural fat or don't.

And the result is reading and learning become a lot easier and skill has become highly developed and increased mental capacity as well. So this is a very interesting thing because it's of a simple concept, but with very it's very big impact.

There's even a recent study that was published in nature that shows that the very combination of exercises that you pioneered, that's fine tuned over the last 20 years, the stem cells, these regenerative cells that are in the cerebellum, which is the bottom portion of the brain right here, and this cerebellum, even though it's, not necessarily fully connected to the rest of the brain, is compartmentalized.

And we all thought it had to do with just balance. But in reality, the cerebellum controls a lot of hiring processes as well, in talks with the rest of the brain in very, very critical manner.

That was not really talk to me and medical school. And so, when for passion, it's about finding ways to improve the educational system and even own the famous private school in England.

Recently, shortlisted for the best school in the UK. What a passionate guy. His life purpose really is to, prove that many currently struggling with brain disorders learning disorders, reading issues, attention deficit issues have a lot of untapped potential in the brain, which can now be revealed.

So it's as use that Mr.. And for door on to the summit. Welcome to the show. So happy to have you on discussing this amazing topic. Thank you. Chang. Yeah, I'm excited to.

From what I've heard about you, I'm eager to get going. Sure, sure. None of it's true. Well, some think it's too good to be true. Until they see the results.

We will come to that later. Yeah, exactly. And then that actually brings us to the very first point. So, you know, let's let's talk about something. Let's talk about some breakthroughs in neuroscience over the last few decades that people don't know about.

And technology has allowed people to access, too. So, what do you think?

Why the Cerebellum Was Overlooked

Those are and how do people benefit from understanding this? I will never understand why the cerebellum has been so misunderstood. But until about 30 years ago, nobody was even thinking about it.

They thought they knew what it was doing. They got it completely worked out, and it was being ignored. Like a professor in England. Professor, Rod Nicholson, he started saying, do you know what?

It's doing an awful lot more than we think. And he started to explain its real role. And then that work was picked up by, professor, Smallman in Harvard Medical School, and he took it a lot deeper.

It got the resources to do all sorts of amazing studies. And his name is, well known that, and his papers, you know, it took him ten years before anybody would start publishing research from Harvard Medical School.

So you can see that there's an awful lot there's an awful lot of resistance to this very subject coming up. So 20 years ago, I was predicting that, you know, by the year 2020, then almost every university would have a professor focusing totally on the cerebellum.

It's that important. That hasn't happened yet. The number of papers are exploding in number. So it's it's there's a there's a real there's a real upward trend in that.

But the information still isn't generally known. And it certainly isn't reaching the people that need it the health care providers, the doctors, and certainly not the patients. Yet.

We've got to change that. Well, you know, this is what I learned in medical school. So, we're talking about the cerebellum, which is it's kind of its own lobe, if you will, of the brain just at the base of the head, right here and in medical school.

I mean, but when I did neuroscience and I taught neuroscience in medical school, you know what we thought the, cerebellum main function was, was just balance was the ability to create balance and understand where things are in the body.

And so, but that's, that's that's changed quite a bit. Well, I shouldn't say it's changed quite a bit. I don't think it was taught to me because I didn't go to med school that long ago, you know.

So I don't think it's taught to me in a way that I understood it now, is that this portion of the brain, although it's kind of kind of secluded by itself, is not just about balance.

It kind of ties into all the other areas of the brain that, that, that create functionality of whether we do something or whether we don't do something.

And so even people who have had, insults to other the brain, let's call them, you know, strokes or damage or mini strokes or something like that, or Parkinson's or anything like that.

There's still a need to create balance within the cerebellum, even though that's not like the one area that's really affected. So that that concept is, is, is new to me.

Right. And so let's expand that, upon a little bit. So, you know, the cerebellum is sort of this, it's a connector. Right. And I used to think, oh, the master connectors, it's other part of the brain called the hypothalamus, but the cerebellum is is, connector.

Now, this is if I, even if I talk to my colleagues and friends, this is not well known in the general medical field. And so what is it about? What is it that no one wants to talk about this, as you said, you're predicting by 2020, you know, people in medical institutions going to teach them about the cerebellum, what it does like, why isn't it gone that way?

I do not know. Chang. It's it's puzzling me, but let's let's just touch a bit on, what the cerebellum does that we now

know it does. It is it is the master integrator, not just of our senses, which it does very well, but that's according to Smallman, that's only about a quarter of its overall role.

The vast majority of the cerebellum is involved with integrating and learning every process that we have, not just cognitive, not just balance and coordination, but emotional controls and so on.

So there's a wonderful paper by Smallman, I think in 1995 that's really worth reading because because that is just not reaching people. So what does it do when when whatever process we we try to learn, the cerebellum gets that information.

It starts to develop a, a like a computer program. And it and it develops that computer program by, by checking how effective it is.

How the Cerebellum Learns Skills

And whenever there's errors in that process, that feedback information triggers fine tuning it. It triggers the, the debugging if you like, and that debugging eventually leads to a perfect program.

So whether it's whether it is something balancing coordination, writing a bike, walking, or whether it's some skill that involves, socializing. So the development of, of finely tuned social skills, the cerebellum is what has gets the feedback loop.

Did what you were trying to do actually happened or did something go wrong? And if it did go wrong, it goes back in and adjusts them. So the cerebellum has got things like an internal model that's pictures of what does it look like when you carry out any function or skill or process.

And it's got an inverse model, which is what steps does the brain need to take. So it's like a very heavy all of our processes are actually hardwired into a very sophisticated program.

And the cerebellum is always fine tuning it. But the problem is some skills hit a glass ceiling. So some people are never any good at dancing. Some are never any good at public speaking.

Some are never any good at reading. Some are not very good at concentration, paying attention, and so on. There's any number of skills that we don't fully develop because the cerebellum development process has hit a glass ceiling.

And that's where limitations in our, in our, in our, in our whole existence actually start to, to show themselves. Well, you know, that that makes sense to me, but kind of goes against a lot of things that I've learned. Right.

And it goes against the fact that whenever one area of the brain is affected, we got to fix one particular area. You know, and that's not necessarily true.

And it's because that's, the brain is, is more holistic than we think it is. Right. And so there's different parts modulating it connections and the cerebral cerebellum, is, is part of the whole deal.

Now, this makes sense. If I was, let's say a physical therapist because there's cerebellar training in vestibular training and physical therapy for post-stroke patients.

So we know that there's actually significant improvement in neuro cognition functionality and stuff like that. So so that part makes sense. But I always thought it was indirect.

I always thought that, hey, people get physical therapy and they feel fitter and there's more engagement and there's an indirect metabolic, more mental box factor on the brain.

But I didn't realize there was more of a direct market was, especially when you do a lot these balance training so so

that's that's my original, I guess, limiting beliefs.

But but now I know a little better. Well, well, let me just touch on that. Checking for a second physical exercise per se does good, but it often fades away.

The good disappears. We might have produced a few extra good positive chemicals in the brain, but they dissipate the differences, understanding how the cerebellum can itself be developed.

And if you look at the research, some some wonderful research showing that when you stimulate the cerebellum using the vestibular activity, that's when plasticity in the cerebellum increases.

And according to nature, that's when stem cells are created. So there are things you can now do to literally increase the density of gray matter in the cerebellum.

Now, one big fact about the cerebellum that until Harvard Medical School worked it out, not many people realize that the cerebellum is only 10% by volume, but it's 75%.

Three quarters of all our brain cells. Smallman calls it the brain within the brain. Boy, it doesn't get more exciting and important than that. It's like the mitochondria of the brain.

That's very interesting. Is it is the brain within the brain. And so, now people are kind of watching this as like, well, this is first of all, this what we're talking about today, even if you're a doctor watching this, there's there's a lot of myths being dispelled.

But we're talking about there from a, from a public point of view is that there is a way to improve brain function. And the key maybe in the cerebellum.

Correct. That. Absolutely. You know, and the wonderful thing about the cerebellum is it's very different to the hippocampus. The hippocampus is great at being the librarian for whatever we want to remember, the librarian that, you know, brought into our thinking brain.

So what I think names, dates, pictures in our mind and facts and numbers. And so anything that we recall to our thinking brain uses the hippocampus. Knepper campus typically only stimulates about 10% of our brain.

Whereas when you learn something through the cerebellum, it lasts. You know, remembering remembering how to spell Cheng Liang is something that I've got clearly in my mind right now.

But if I don't speak to you for the next three years, I hope we do. But if I don't, that might well be fading. But the cerebellum is different when the cerebellum integrates all of the senses that are happening to you.

When you're learning that particular process or skill, the cerebellum creates permanent change.

Personal Story Behind the Research

So when we learn to ride a bike, we get to a point where we stop thinking about it and we've got it automatic. The cerebellum has done that job. I actually put my bike away for over 20 years.

I pulled it out of the shed. I dusted down, pump the tires up, and I rode the cerebellum as work had not faded. One scrap. So that's the wonderful thing about the cerebellum.

And it also it involves about 90% of the brain when the cerebellum is doing the learning. So to me it's it's the easiest way to learn and develop. So so this thing called muscle memory is known within the muscles within the the cerebral processes.

Right. Yeah. That very that's what I believe. And the and the theory about 10,000 hours of learning. That's a very

very shallow approach to what the cerebellum is, is really doing.

Wow. That's that's that's amazing concept. Well, how did you even stumble into this and how did you start working with neuroscientists in the first place?

What's your story? Well, I'm a I'm a researcher, so, I at my each of my businesses, I've been involved with researching completely new approaches to an industry.

I did it in the fire protection industry. I worked on technology that some people are saying would have kept the World Trade Centers up. I don't make that claim, but I've heard lots of others make that claim.

So it was my first industry. But during that time, my oldest daughter, I've got four children. My oldest daughter had the same teachers as my other children, worked just as hard as the same support at home, and could not learn till the age of 5 or 6.

She seemed very, very bright. Then she went to school and learning was hard work. In fact, it was impossible for her. So she left school, still not reading four letter words.

And as is often the case with children who struggle with learning, she became more and more depressed. So one day I was driving my car up in the north of England and I got a phone call.

The kind of phone call you never, ever want to get. And that was from my younger daughter saying, Susie is in hospital. She's trying to take a life. I was I my mind just went blank and I started to say, well, what's the chances, what's happening?

And the phone had gone dead. My younger daughter had gone back to her bedside, so I had the two hour drive home working out. What else? What have I done wrong?

What advice did I ignore? And that level of guilt, as you can imagine, you know that I was a successful businessman driving around in a nice car with all the toys of success, but a daughter that wasn't happy.

And right on that journey, I made the decision that I was going to sell my businesses. I was going to put all my time and money and resources into finding out why Susie couldn't learn.

Well, I got to the hospital and thank God Susie was beginning to come round, and they said there was a good chance we're going to save her life. But it changed my life.

So that's when I started and I started, you know, I started looking for where are the clues? What is everybody missing? And one thing led to another, and I got introduced to Professor Rod Nicholson, who became my mentor, and he's my mentor to this day.

My previous phone call to to this conversation was with Professor Rod Nicholson. He's a humble guy, but an incredibly bright guy, and he's still his work is still not being recognized except by those that are benefiting from it.

And there's tens of thousands of those, fortunately. So this is all for Susie. This is all but but as soon as I started chatting, as soon as I could, I started putting some some programs together that was following what Professor Nicholson was telling me.

And I started looking for others who wanted to take this risk. And suddenly there was a queue outside the door of people said, oh, my child can't read my child can't concentrate.

My child has got low self-esteem. And so I had to keep going back to the neuroscientists. What's happening here? Let's get an understanding of that. And I bought some equipment from NASA, which NASA used to work out.

Why is it that astronauts, sometimes when they leave the Earth's gravitational pull, they start to see things upside

down and read that writing is backwards and all sorts of things go wrong?

And I started then to realize the sensitivity of the brain to the function of the vestibular system. And Rod Nicholson literally pointed me to the cerebellum.

So I started putting together all these pieces of jigsaw. And within months Susie was reading for the first time in her life. Oh wow. Well it was. Now let's talk about what this system is.

Let's go. Let's dive deeper over. So. So what did you build? When I, I ended up working with about 45,000 people, with reading difficulties and concentration difficulties.

And there was some amazing common denominators. About 97% of them had very poor eye tracking, very poor eye. So instead of their eyes smoothly going along the line, when you take a video of of their eye movements, their eyes are jumping around.

So guess what the the all the letters and words are going in in a scramble, right? Nothing to do with how intelligent they are, but it's to do with how the skill of eye movement that fine motor skill has never developed.

It's hit a glass ceiling and so reading for them is hard work. Well, we then developed a way of of putting vestibular stimulation together with other exercises that challenge the cerebellum simultaneously.

And that started to do the trick. It started to drive the ongoing development of the cerebellum, which is itself the natural, the normal way that the brain acquires and develops and fine tuned skills.

Building the Training Program

So when you start from the from the problem and you start from the skill deficit end and give more exercises, it rarely does any good because the cerebellum can't turn it into a properly developed program.

But when you develop the cerebellum, where the problem, the root cause of the problem is it can actually fully continue the development. And that's and that's what happened.

So we started off with we started off with eye tracking. And we've quickly found that auditory processing was the same. You know those. And then we then we discovered that movement in what we call dyspraxia is is is the same issue.

It's incomplete development of that part of the cerebellum that fine tunes coordination and balance and coordination. So we we were finding ways of systematically doing an audit on where is the cerebellum doing a good job.

Where is it not. How can we stimulate that so that development can continues to the point where it can complete all of that type of scale that that part of the cerebellum is responsible for this?

This sounds like my childhood. So to be honest. So, and I don't talk about this very much, but, when I was in China, I was born in China, and I was certain I came, in the middle of my, of my, first grade to the US.

And what I realize is that I, I, I was good at reading in Chinese. I was is a cuneiform language, right? Which means there's no letters in a row. It's a it's picture.

And the English was so hard. I can speak it very well. I pronounce you pretty good. I lost my Chinese accent, like three, three months, you know, but I was I was able to speak it very well.

I'm a phonetic learner. Yeah, but my gosh, whenever you put words together, and in any sort of English language, Latin language, whatever the sequential, that gives me palpitations.

Thinking back on it, because it was very hard and I didn't do very well in school because of it. And, and it was very depressing for me because I just, I just thought something was wrong with me.

Right. And, and that got worse after I started to play, soccer. And, and, and I had concussions and they got worse later on when they got more concussions and, and American football.

And then I got more concussions one time in baseball. And then, then I just kind of got worse and worse and worse. And part of the and the only thing that really allowed me to, to really focus on something were my Chinese medicine balls.

I had both hands. There's two balls, right? And I start coordinating myself. And then, you know, I was very fidgety, and I'm able to kind of concentrate on things, and I'm have to like, to, like, be very specific cific on these words.

So even today, if you send me a paragraph in text message, I have to, like cover it up to, to figure out what each line says sometimes. And that's me. You know, being a physician think I'm a medical school.

Most of it was audits were learning, from me. And so, wasn't that good? Very good, very good test taker. But that kind of makes, makes, makes sense of some things, you know, for me and, and, you know, my balance isn't great.

And my several actions, it's currently still isn't, isn't great. It was much better than was before, but that really, that this, this, this whole thing kind of kind of hits home for me, you know?

But, you do, you do rollerblading or. I did. Yeah. No. So you might say you just said your balance is not very good. So why did I ask you? Why did you do rollerblading?

Because, often people with with reading struggles. Often. Not always. Often. They're very good at skiing, rollerblading, windsurfing, snowboarder. Yeah. Snowboarding, snowboarding.

So what's going on? Well, shall I try and explain that? And also why reading is hard work for you. And I must preface this by saying the most interesting people in this world often have ADHD.

The most interesting people are often poor readers, and I've come across quite a few billionaires, and I don't think I've found one yet. That does a lot of reading because it's hard work for them.

So what's going on? You know, our educational system is not discovering intelligence. That's a whole nother story. And that's one of my problems. I own a private school of China, very excited about it, because I know that education can and should be far better than it is.

But let's get back to those two things. So your balance. You're very good at snowboarding, boys. Most people think that's awesome. Balance. So what's going on?

Well, you know, the blind people very often have far better auditory processing. They're far more sensitive to sounds. Right. In your case, I mean, there's three elements to balance.

One is what we see. Another is the vestibular function. And the third is the amount of sensory feelings through the body. Well, if your vestibular information is not being used by the brain to the extent it should be because the connections aren't there, then your vestibular system becomes far more highly tuned.

So guess what you need for for snowboarding? You need fantastic feelings through your host, some other sensory system. And that's what you've got. So you find snowboarding. You probably picked it up quicker than most, and you're probably pretty good at it and so on.

So that's not because that's because the investor stimulus system is underperforming and your somehow the sensory system has developed far more, precision and acuteness.

I see. Does that make sense. That makes sense. Makes sense. So I feel better about it now I so what's happening with reading? If the part of the cerebellum responsible for developing your fine motor skills is itself not fully developed, then you'll end up with poor fine motor skills.

That's the predominantly eye movement and fingertip, so you may well hold your pen in an unusual way, something a lot of people hold their pen and they just you write with their fingertips.

That's a fine motor skills. Those without good, fine motor skills, they often hold their pen in a strange way and write with a gross motor skill because the fine motor scale isn't developed.

And if we took a video of your eyes reading Chang, we'd probably see those jumps and move. So the data is coming in in a scrambled way. So this is what's happened.

The part of the cerebellum responsible for developing and perfecting precision fine motor skills isn't well developed, so you've ended up with a poor skill.

So what happens is whenever we have a poor skill, the cerebellum hasn't finished off. When we're using it, we need thinking brain activity to help us make that skill work at all.

They call it conscious compensation. And guess what? The thinking brain is far less precise than the program, or the process that would have been or should have been developed by the cerebellum.

And so if you've got thinking brain involvement rather than all of the process of eye movement being controlled up in your cortex, it's going to be a far less precise and be far slower.

You know, the thinking brain neuroscientists are arguing about this right now. Is the thinking brain 40,000 times slower than the cortex, or is it a million times slower?

I don't care, I tend to use a generalization, say around a hundred thousand times slower. So you've got the process that should be happening up here, happening here with support from the from the thinking brain.

And it's far less precise. That's why so so there's two problems that your eye tracking is going to be imprecise.

Reading, Attention, and Dyslexia Explained

And secondly it's filling up the very parts of the brain which you need to retain the words that you're reading. So you imagine imagination. If the prefrontal cortex is rammed with stuff that shouldn't be there, you get to the end of the sentence and you realize you haven't retained the words.

So you have to read it again and sometimes again. So because that prefrontal cortex, you're thinking brain is full of stuff that really shouldn't be happening, that should be happening up here in the cortex, unlimited capacity, almost infinite speed.

Any any skill you need that needs support in here is going to be imprecise, very much slower and very tiring, of course. So that's the first stage of what's happening.

Was reading. The second stage is when your thinking brain is full of stuff that shouldn't be there, that's where your executive functions are. So guess what?

Attention is out of the window. Impulsivity. Far more common. Emotional control, sometimes out of the window, impatience and frustration, and so on. Memory functions can sometimes be repaired. So you got a horrible double negative happening there.

You get the skill impaired and then you get your executive functions impaired as well. And when you look at all of that, you can very soon analyze and understand the root cause of all of the symptoms of dyslexia and ADHD and

even autism.

They're all rooted back in the cerebellum, not finishing its job. And on the implications of that, the consequences of that. Amazing to tie all that together to the cerebellum.

It's it's certainly very unexpected as well. And so, you know, I had a chance to utilizing performance, which is the topic that we're talking about today.

But let's, let's kind of go into, zinc performance and what it is because it is cerebellar training, even though cerebellar training is whole brain training as well.

How was that developed? What are the components of it and what can people expect out of it? Well, it developed from trial and error. You know, if you if you imagine I'd got a daughter that wanted to die and the all of the experts that I'd taken into said, she's got to learn to live with it.

And I had to point out she's just attempting to take her life. It isn't worth living with. So I just threw everything at it. I ended up with one point with, 400 staff therapists, doctors, psychologists, physical therapists and so on in 57 clinics that I was supporting to do this research.

So we had a huge number of samples to work with. And so we we literally did over a million trials of the impact of individual exercise combinations. But there was always that secret sauce behind it.

It was the combination of vestibular stimulation. And there's various types of that. This rotation is jumping up and down. There's going from side to side and various degrees of stimulation, the severity of the vestibular input that has to be combined with an exercise that challenges the cerebellum.

In other words, getting you to do something that you don't normally do that the cerebellum hasn't already got a program worked out for. And when you combine those two and you give the right exercises, and we have to work with all those people to work out the right combination at each time, and then how to move them on, because that's the cerebellum was developing in this process.

Those particular exercises ceased to have any effect. So we had to increase stimulation, systematically be working through each part of the cerebellum that needed it so that we maximized, you know, if we could maximize the development, the cerebellum, you maximize the number of connections, synapses that's going to take place in the brain.

And so it was trial and error initially. Fortunately, we never did any harm to anyone. Sometimes in the early days, we took them forward slower than what we would today.

And that was part of the learning process. And, and so the program, there was a time where we needed to bring them to clinics. Now we can do most of this online, but we do love working with doctors and health care providers because they can do things like the eye tracking test.

And in ten minutes, you can show patients exactly what is happening. And suddenly it's like a what is a light bulb moment? And you get, wow. And then you get dad, who's always angry, saying, why is nobody told me this before.

We've, we've our school has been struggling. My child is in trouble. A was in tears because she realizes actually it's not that her child is unintelligent or lazy or her bad teaching or bad parenting.

It's because she's got a developmental issue that's it's just hit a glass ceiling and now, you know, there's something you can do to get through that glass ceiling.

So that that was the history of, of where, where this the emergence of this child. So this, this thing that we call A. D. D. and ADHD, it's really just, a label of a pattern that we see and, and human nature and the fact that there's something to do about it is very inspiring.

And, and you're right. And this is going to be those patients who like. Well, what? I'm the one that no one told me this before. What is the psychiatrist? Tell me this before.

But I hadn't even heard about it when I until I started using it in performance myself. And I'm like, what is what is this? And I'm in the brain world.

I look at brains all the time, except I don't look at the cerebellum because I look at what's can't look at the cerebellum. I look at everything but the cerebellum.

So, so I mean, this this almost it's almost like it's too good to be true. I mean, you've been working on this, what, 20 something years now, right? And.

Right. Why? Why? And I heard about it before. I guess that's the first question. Well, I look, I can't answer that. All I know is when I, when I, when I did some, some, podcasts with Doctor Daniel.

Amen. He started telling me all sorts of stuff, and he was telling me things like more than half his patients, they show up with little to no blood flow in the cerebellum.

Right. And he also told me he doesn't know any other intervention that directly impacts the development of the cerebellum. You know, there's drugs there, but they don't deal with the root cause.

They help you cope with whatever symptoms you've got, and they work at the symptom development end. And this is working at the root cause. And so why is it not happening I don't know.

You know, we're doing a lot of research. We're doing peer reviewed studies. We're just starting a whole range of programs of research programs in school.

We've just completed a wonderful study in, in Nebraska in a school called West Holts School. And I happened to get the statistics here because they've only just been produced today in those people that were below average in visual working memory, ordinary working memory, concentration, response time, and so on.

We took them up. We took them up an average of 37 tiles in each of those different categories. So we weren't practicing those. You. Yeah, we were. We were looking at who needs the most need and working with them.

And then what's the changes? Well, so in, you know, auditory working memory which is critical to listening and taking things in. We, we took we took people up 43% miles if they were below average when we started.

You know, that's huge. So when you're doing something that changes a whole range of different cognitive measures and we, you know, we use the the traditional cognitive measures that most neuroscientists would use for these things.

Research Results and Real-World Impact

And we transform a whole plethora of them. You know, you're dealing with something very important in the brain. It's why, whenever I'm hearing these numbers and these are, by the way, these are incredible numbers, my mind is actually blown what the data sets show.

Right. And it's and it's, and it's, and I'm, I'm kind of sad to say I didn't know about earlier, but but, you know, but now, but why do you think what do you think it takes for the world to understand that there is such a thing as training your brain in a specific way for performance, functionality, attention, etc., etc.?

Well, what's that going to take? I don't know, we had one massive breakthrough and that was a very famous documentary maker here in Britain. He, he, Trevor McDonald, his name is he came to us and he sent a load of people to us.

Some of them had no problems. Some of them did have problems. And he didn't tell us which was which. We didn't know this was happening because they were just turning up at one of the clinics.

And we I think our doctors immediately identified those that were not telling the truth about their symptoms and those that had got a genuine problem.

We transformed them and changed their lives completely. So he was documenting all of this. So when he put this documentary out, of course, it was very credible.

He got he took the credibility box so that that created massive interest with the phone system over here. Crashed because there was so many people trying to trying to contact us.

So if somebody has got great credibility, that works well, bring that forward to today. You may have heard of Doctor Ned Halliwell, who's the famous author of of books.

Well, I worked with him with his son and his wife some 14 or 15 years ago. So he's been watching my research ever since. Well, you got to read his last two books to see what he is now saying about this, because not only is he witnessed it in his own family, he's when I witnessing it with lots of his clients.

Well, there's not many as as prominent and famous as him in the whole ADHD world. He's you know, he's a guy that sold 5 million books on ADHD. He is now come round to the fact that the the the best way to provide a medication free intervention is to use exactly a program like this, which stimulates the vestibular, challenges the cerebellum with another exercise, and deal with the root cause the the, the the, the limitation to the development of the key skills which transforms our lives and makes everything easier.

It's amazing. And right now this this program is available, digitally, online it is. And access it right away. And that's that's the beauty of this, right?

It's, and it's and not only in that, like, you people take action on it and start right away. But the outcomes are just as sounds, very amazing. So I want to congratulate you on that.

So thank you. Chang. Well, look, we're you know where my heart is. My heart comes from wanting to help my daughter. I just don't want other families to face the same, same problem.

So when I launched this, I decided, you know, people don't know what's going to happen. And and they've been told all sorts of confusing things. So I put it in place at the beginning.

If this doesn't work for you, you get your money back. Now, I don't know of any other medical intervention which has a money back guarantee if it doesn't produce any positive benefit.

And yet this does, because to me, this is not a business. This is about families not facing, not ever getting that phone call that I had when I was on that journey.

And I dreaded ever since having the same phone call again. So that's my driver. Unfortunately, I've been able to sit on the shoulders of giants neuroscientists who've been helping me with different pieces of jigsaw.

And when you put it all together, yeah, it is a picture that looks too good to be true, but it's not. But until you face it, until you realize it, until you see your own performance being transformed, it is hard to believe.

That's amazing. Now, let me ask you this. And this comes from the old saying, is it too, is it too late to train old dogs and give them new tricks? Right? Basically, is there an age limitation where this doesn't necessarily work anymore?

I used to think that. I used to think exactly that which we thought, oh, yeah, plasticity runs out, you know, during your teens is lying down and so on.

And I was giving a talk in Southampton in England one day, and a lady came up to me from the second row, an old lady, and she said, I want to read and write before I die.

I said, how old age? And I'm 82. I said, well, you know, this is an exercise program. She says, stop, let me stop you, that I know you're going to tell me that I might hurt myself because it's an exercise program.

Well, let me tell you, I am hurt more every day because the very things that everyone else finds easy, I find impossible. Will you let me? So I said, okay.

I said, I can't promise anything I've never done to anybody over 70 before. And off she went. Four months later she was on British national television, holding up the first letter she'd ever written in her life.

Wow. That's amazing. Two years later, her daughter rang me. She's. Do you remember Liz Percy? I said, yeah, how is she? Oh, she's reading and writing in three languages.

What? I'm sorry. The answer is yes. You can teach. The brain can learn. That's what the nature article says, is that if you combine vestibular stimulation with something that challenges the cerebellum, you multiply stem cells in the cerebellum.

And if you keep that up for six weeks, those stem cells become vital. New circuits in the cerebellum. So you know, that that just came out a couple of years ago that, for a second because because I read the nature article, right.

Right before I got on with you. And, can you just summarize what I actually found? Because this is a very fascinating article. Well, it was it was it was, it's it's a couple of years since I read it now, but.

So you can probably see more about it than I can, but it was using rats, and it was, it was, it was showing that if you give rats a challenge, a serious challenge that that they needed to solve to, to survive.

And you they were stimulating their vestibular at the same time, that combination they showed, multiplies stem cells and in specific parts of the cerebellum, and that was kind of a breakthrough.

Does it work in humans? Well, it seems to and most things like this do translate to working in humans.

Age, Plasticity, and Final Takeaways

So, so, you know, we see it happening every day. What are your, some of your, your favorite success stories? I know you just told one, but what are some of your other favorite success with it? You think back as, like, men.

This is totally where that is the most rewarding thing I've done. What are some of those? I have to watch videos and read messages every day from people who are transformed.

And sometimes it's from things that happened to me as a girl. So I'll share one with you. An old elderly gentleman in his 70s contacted me, but this was 15 years ago, and, he said, I'm afraid to get old because my son is very autistic and he can't look after himself.

He doesn't speak. He just follows us around, very shy, can't dress himself and so on. Well, let's cut a long story short. A year later, he rang me up to say my son's just gone off to London on his own.

He goes to see a sister in London. He's got himself a job. He's doing something in college. And he said, life is very different. We're not scared to get old.

Well, I had an update from him only about six weeks ago to tell me that his son was now living in sheltered accommodation. Had we taken away every problem?

No, but we'd gotten to a point where he was able to have a life. He was able to look after himself in an apartment,

and he'd got friends and he got a social life.

And that was a thrill. And this, this guy was saying, my wife has just passed and I know she passed happy because my son was in a better place than ever she thought possible.

So that's one of my favorite stories. The fact that my daughter is alive and well and can read and write and communicates by reading and writing all the time, is a thrill.

The fact that she's alive is a thrill, because I do know that without what Professor Nicholson and Jeremy's mom and dad had showed me, that would not be the case.

What an amazing impact you have. So once again, for those listening, just look up zing performance. And it's zing performance, right. Performance.com. Yeah.

And, one last question. Before, we jump off and, and this might be more of a personal one is, what do you what do you what do you learn recently that you wish you knew when you started this entire journey?

What is one thing? Probably the most important thing I had to learn was that that many academics are very, very powerful and very wise and very unselfish.

But sometimes you get academics that are wedded to some theory they've been promoting, and their concern is not the children that are suffering. Their concern is their own reputation and financial standing and so on.

So I've, I've come across some academics wedded to outdated theories who have been unbelievably nasty in this. Not they're not interested in the science, they're interested in the people.

It's good help. They're interested in their own reputation. Fortunately, it's only some. But the harm they have done by proactively attacking this breakthrough.

And you know, we know that paradigm shifts are always a pain. But, you know that that one of the academics that furiously attacked me who work has just recently been rubbished.

But you know what a generation of children have suffered needlessly because of the influence of that one academic. So I wish I'd known that I'd have probably approached things in a different way.

I am determined, Chang, that another generation will not suffer needlessly. How will I get there? I don't know, but if you've got any doctors or healthcare providers listening, you know, get them to contact me, because I will make sure that if they've got somebody in their family who could benefit, I want them to watch it, because when they watch it, because they'll learn along the way an awful lot about the cerebellum and its proper role and how it can be developed.

I know they then will want to introduce this to their own patients. So I'm not saying, you know, become a Zen advocate. I'm saying watch what happens, be yourself, and we'll make sure they get, you know, we we don't make money at this, but we'll make sure they get a serious discount to tempt them.

And they can watch it in their own family or friends, or maybe a member of staff. And when they've seen it, then they can come back to us and say, look, we'd like to put this in our clinic.

So that's my invitation to you. That's amazing. Well, thank you for that invitation. And what a what a passion discussion. And I have three daughters, by the way.

So, you know, I get a little choked up whenever you talking about yours, so I can understand that. And they're very, very young. But listen, I want to thank you so much for coming on today.

And in discussing this. And this is going to be reverberated into hundreds of thousands of, of of of ears. And not

only that, I think that your passion also shines through on this interview, and I really want to applaud you for that as well.

So thank you. Chang, thank you for sharing this great information.