

**Podcast Transcript: Executive Functioning Explained: Recognizing, understanding,
supporting
Dr. Marie-Josée Gendron**

Lawrence Barns:

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[Introduction Music starts]

Welcome to another edition of TalkLD, a podcast of LD@school. I'm your host Lawrence Barns. It's my pleasure to have you listening in, and our aim today is to create a lively conversation by educators, for educators, that will share experiences of classroom professionals and students, to assist in the strengthening of student success.

This episode my guest is Dr. Marie-Josée Gendron. Dr. Gendron has been a school and clinical psychologist for the past 15 years, specializing in the mental health of children and youth. She has often taken an eclectic approach to understanding mental health, borrowing from cognitive behavioural theories of behaviour. She has worked in various school boards, helping students and their families directly, and more recently, has done a lot of work with Ministries to develop and implement overall mental health strategies that focus on positive mental health for all students. She is a workshop and keynote speaker and has covered the entire span of the mental health continuum.

It is my absolute pleasure to welcome Dr. Gendron to TalkLD today.

Dr. Gendron:

Thank you.

Lawrence Barns:

Today we're going to talk about executive function. So let's just start with that basic nutshell definition of, what is executive function, and why is it important for an educator to be aware of it?

Dr. Gendron:

Well in a nutshell, executive functioning is really about the CEO of the brain, or in another way, you can think of it as the secretary of the company. Really both of them, if you think about it, really help organize the day-to-day functioning of that company. So they allow us – executive functioning – they allow us to organize our tasks and our time, from the moment we wake up in the morning, to do all the tasks that we need to accomplish during the day.

So if you take another analogy, it's really like having the orchestra conductor not be present. So you may have all the musicians there, who know exactly what to do, but you don't have the conductor there. They may play very well, individually, but the audience won't be able to tell, because it will sound like chaos to them. The music won't flow coherently; they won't work cohesively together. So really, executive functioning allows us to accomplish our tasks coherently and cohesively, each one of them, in

unison, so that we can flow through our day efficiently, complete our tasks efficiently, use our time efficiently, and get through our day.

Lawrence Barns:

Now, often when we are talking around LDs, we hear about deficits in executive function, weaknesses in executive function – so – what is the impact on learning of the executive functions?

Dr. Gendron:

So, executive functioning is – when we have challenges with it, it really does impact student learning. Executive functioning affects all complex tasks. We use executive functioning to plan everything we do in life. So, you can imagine that every moment of the day we are taking decisions about what we need to do next, when we need to stop the particular task that we are doing and get on with something else, knowing when to move on from one task to another, what tools we need to keep ourselves efficiently doing our tasks.

So think about a person trying to plan a birthday party, for example. Think of all the tasks that person needs to do three weeks before the party, two weeks before the party, the week of the party, the day of the party... Executive functioning allows us to initiate the tasks properly, equip ourselves with the tools that we need and really, move forward from one step to the next.

In learning and in the learning environment we are constantly making those types of decisions, constantly moving from one task to another, knowing what tools we need, how to move forward from one to another in an efficient manner and time manage ourselves as well, self-monitor ourselves.

Lawrence Barns:

Ok – that's great!

LD@school and TalkLD is always about helping teachers to understand the impacts in their classroom. So a couple of questions following on from what you just said: Is there a particular age when we start to see this – deficit? Weakness? I'm never sure what the right word is right now because we hate so many of them – when it starts to impact the children. Is there a line in the sand? And then secondly, because of course, I'm thinking, when you look at executive functioning you are going to also be looking at, potentially, just standard developmental delays in timing. So, a) what age do we start to see it, and b) at what point does the educator start to be concerned? And I think that is a key concern: When do I start to need to act?

Dr. Gendron:

So, those are excellent questions. Really, executive functioning develops throughout the life span. So, that's the good news part of it. Really, even as a small child, as a toddler, you can think of a child building Legos, all the decisions that they need to take, all of the tools that they need to prepare for themselves in order to know that they have all the pieces that they need to build that car, that house, that city that they are trying to build. They are constantly make those kinds of executive functioning decisions. A child who is building a puzzle, same thing. Even before they start school they are using their executive functioning. They are preparing their pieces; they are categorizing their pieces according to

the different settings of the puzzle, taking the corners away, etc. So really, executive functioning, you can notice a toddler using it right from the beginning.

In terms of when we start getting concerned as educators, it really is when it starts impacting their functioning. So we talk about functional impairments in the educational system and that's when it really concerns us. We all struggle with executive functioning. None of us are completely, efficiently using our time every second of every day. All of us are guilty of procrastinating now and then, some of us more than others. But, when it starts impacting how we function, when we start to arrive late at everything we do, when we never have the tools we need to do the things we need to get done, when we never accomplish our tasks, then it becomes a functional impairment. And, as educators, it's really when a child starts to not hand in their homework, not hand in their assignments, not be able to organize their thoughts when their trying to, even, write a paragraph, they seem lost in front of a task that is given to them, that's when you start to worry. Especially when, developmentally, it seems to be different from other kids their age.

Lawrence Barns:

So just to follow on, I'm interested as a parent of three kids, two of which have learning disabilities, some of the traits you just described, kind of seem to me, what I talk about, when I think about a kid's personality, are they a procrastinator, are they always getting the dog eating their homework, how does an educator tell the difference between someone's kind of personality and wiring and something that truly is an executive function issue?

Dr. Gendron:

That's an excellent question because it really does get at the core of what we really are as humans, right? And executive functioning, interestingly enough, is in the frontal lobe, it really, it sits right here, behind our forehead, and really that is where our personality is as well. So, they are really intricately related to one another. I think where you really want to differentiate between the two is, between a child that wants to do well, that really doesn't want to not hand in their work, doesn't want to write a paragraph that make no sense, that isn't coherent, but even when they give it their best shot, they do their best effort, it still seems to be disorganized, it still seems to be not coherent. That's really where the difference is. Unfortunately, as we grow, if we have difficulties with executive functioning, it starts to become intricately part of our identities, so as adolescents then, we start to make that part of our identity. If we know we struggle with writing paragraphs, then then next time someone asks us to write a paragraph we just say "I don't feel like it; I don't want to". That's when it becomes more difficult to pull that apart, so where the importance of catching these things early enough so that we can put preventative measures in place, really correct bad habits so that they don't become these automatized habits, that we tend to procrastinate, not have any motivation, not complete tasks etc. With the right support, with the right strategies you can get a child to really develop those good working strategies.

Lawrence Barns:

So I'm also making the assumption here that there are ways we can truly measure executive function, and if an educator has a concern there are ways to actually, scientifically get at "is there an issue?" So, what kind of screening measures exist to help us get our head around a student's executive function capabilities?

Dr. Gendron:

So, that's a good question. There are questionnaires, there are checklists out there that teachers can use, um, I mean, executive functioning is quite complex, as you can imagine. There are many different processes that are involved in it, but certainly questionnaires and check lists are certainly one way to go about it. So you may have a suspicion and the checklist would come confirm the difficulties that you have been noticing, in that particular student. If you need to go further, of course, there are other tests that are reserved more for psychologists, or neurologists, that really get at the core of some of the issues, in terms of cognitive flexibility, task initiation, being able to switch from one way of solving a problem to another etc. So, you know, some of the famous tests are the D-KEFS, so the Delis-Kaplan (Executive Function System), the NEPSY, etc.

Lawrence Barns:

So, again, because I know for a lot of educators and I know as a parent, you see the psych-ed, you see all these tests and these measures. Is there age considerations around screening? What comes out of this? How's this going to help us as an educator to get on top of the needs of the student?

Dr. Gendron:

So, really there is no bottom end to the age. I think most checklists and questionnaires really begin when school begins and I'm thinking here in terms of grade one really, when a child is six years of age. Executive functioning certainly develops before that, we all agree with that, we were talking about, you know, a child putting a puzzle together, putting Legos together, from the moment they start playing, from the moment they wake up, they are organizing their day, their tasks, their plans for the day. But as educators we start to think about executive functioning impacting their learning when they begin school. And again, we are comparing them developmentally to other children their age. When they are really not at the same level as other normative children, then we start to worry, when it really starts to cause them functional impairments in their everyday functioning.

In terms of the diagnosis, again, you know as psychologists, we always want to give a chance to the neurology of the brain to take hold. A child, we know, keeps growing in terms of their executive functioning until they are age, even, 25; that's the good news part, is that well into our 20s we are still developing executive functioning. So that's the good news part. The bad news part is that, some kids seem to develop it naturally and in other kids you really need to explicitly teach those organizational strategies, allow them to have access to all the particular tools, you might even have to chunk some of the tasks for that child because they just can't seem to get their heads around how to organize themselves.

Lawrence Barns:

Ok, so, obvious next follow on question then is, for a lot of educators the signs lead to the line up for the psychological assessment and we get the psych-ed, and in some schools a resource teacher is going to interpret that through to the classroom teacher, and give them more of an understanding, be it a SERT or someone of that nature. But what is going to be in the psych-ed that's going to really be a trigger in terms of the way in which a child is treated in the classroom and those things you talked about? Is there certain things which an educator can look for if they've got concerns? Because, maybe, they've been inherited a child who has a psych-ed on file from a different school, and now they're in my classroom so,

what can they maybe look for to maybe build a road map to work with that child and improve their executive functioning skills?

Dr. Gendron:

Well really, to be honest with you, a lot of children who have learning difficulties struggle with executive functioning; it seems to often come hand-in-hand. Executive functioning really, difficulties with executive functioning, are a sub-type of learning disabilities, you can certainly have difficulties with one area without having difficulties in executive functioning, but it often seems to go hand-in-hand with other learning disabilities. What to look for in a psycho-educational assessment is really, what are the strengths of the child? Where are the areas of need? And, in doing so, you are really trying to set up a road map, as you said, in using the child's strengths and circumventing, overcoming, the areas of difficulty that they have. So, in essence, what you are doing, let's say a child is, in terms of their auditory memory, they're not, that isn't their strength, that's actually an area of need for them, but their visual memory is quite strong. So, again, what you're doing is you're not going to keep repeating things over and over again, that's not where their strengths are. So what you are going to do is you're going to make sure that child has visual aids, you're going to make sure, even in doing arithmetic problems, they're going to have the steps visually set out for them, right o to their desk. So they can pull out that laminated sheet with knowing how to do additions: What is the first step? What is the second step? What is the third step? And then the last step, always, a rechecking of my answer; always going back. So you are teaching those self-monitoring skills that are so important in executive functioning. So really, that's what you're doing when you're looking at psycho-educational assessments; you're trying to use all the strengths for that child to try to circumvent the areas that they have difficulties in. And that's what we do as adults too, if you think about it.

Lawrence Barns:

So, follow on question. We're always covering a lot on the LD@school website, TalkLD, and our Educators' Institute, the use of technology. So, being someone who does procrastinate a little, is sometimes a little disorganized, my phone goes everywhere with me and is my kind of unpaid secretary at this point, what is the role of technology in the classroom, in helping these kids to stay on pace with their peers? Because ultimately, that's always the big key. We want them to be included from a social perspective, but we are seeing them start to slip. What role does technology play in helping to close that gap?

Dr. Gendron:

A huge role! I mean, as you were saying, I mean really, the new generation of kids they have their phones, now they have their smart watches, so really we need to help them use that technology to keep them on track, to make that they stay, they time themselves as they are doing a task and maybe a beeper goes off, so that they know, at this particular time, I've already spent an hour on that chapter, I need to move on to another chapter, or I've done enough on the math right now, I need to move on to something else, otherwise I'm going to get stuck, I will neglect other subjects to the detriment of this one.

I mean as a child is younger you're going to have to do self monitoring more, as an adult in their environment but you can get them to get help organizing their day, organizing their week, etc. with the

different events that they need to do. On larger tasks you can help them chunk that up so that they know, the task that's due in two weeks from now, well here's what I need to do in the next few days, here's what I need to do by the end of this week, here's what I need to do next week. So you can help them chunk that, put that in their calendar and actually help them organize.

The other challenge is, of course, getting them to use the technology properly so that they don't get distracted by it but they actually use their calendar, use their reminders, etc.

Lawrence Barns:

That's great. So you touch on a little bit, but the other thing I'm kind of interested in, two boys, two different LDs in my own life, but let's take my youngest who, the diagnosis was dysgraphia in the old days, now it would be a kind of written learning disability, but clearly, now as I've learnt, obviously had executive function issues. Why do we see them so commonly, and how interlinked are they, how separate are they? And, just trying to understand if they are always together, whether they could be one or the other in a separate way. I'm interested in how that works.

Dr. Gendron:

Well in terms of learning disabilities, well, executive functioning is a sub-type of learning disabilities. So, there are many many students who may have different kinds of learning disabilities. So, now what we tend to do, in Ontario is, we diagnose learning disabilities based on the psychological processes that are responsible for learning. So we would never say written expression or writing disorder, we would say it is caused by difficulties, perhaps, in working memory, or perhaps in phonological awareness, that is causing some issues in spelling and perhaps executive functioning is also involved because they ideas are not well expressed, they're not organized in the right way, it's not coherent, it's not cohesive when it's put down on paper. So often, we will see kids that have learning disabilities have executive functioning difficulties. More specifically, I'm thinking about ADHD, Attention-Deficit Disorder, 50% of kids with ADHD tend to also have a learning disability; often, that learning disability does also include executive functioning. By definition, the symptoms of ADHD, the fact that they have trouble with attention, with concentration, often with their working memory, holding information long enough in their minds to accomplish tasks efficiently, having motivation to initiate tasks, to complete tasks, to be perseverant enough to finish that task, by definition ADHD often intricately involves executive functioning difficulties. But the opposite is not always necessarily true; you may have kids that have difficulties with executive functioning but don't necessarily struggle with Attention-Deficit or other kinds of difficulties. But they are often intricately often involved in learning disabilities.

Lawrence Barns:

Wonderful. So obviously, LD@school is a great place to go for anyone that's listening to this and wants to get some further insight, information, and resources but in your experience as an expert in the field, if I'm an educator and I'm looking for help, where can I go to find other resources for my students?

Dr. Gendron:

So, there's very good sites. I mean, the ministry, among other resources, has excellent resources for teachers, that are available online, free. One of them is called *Supporting Minds*. They offer a lot of educational strategies that you can put in place, that you can implement in the classroom to help

students with all kinds of difficulties, including executive functioning difficulties, to better organize them, to better help support them. So *Supporting Minds* is definitely one; you can google it right on google and you will find it. Other tools that they may be able to find, there's all kinds of apps, again, talking about electronics, or the technology world, all kinds of apps that are available to be able to organize your thoughts when you are brainstorming about a project that you need to write about, how to write a paragraph, again, with very explicit strategies on how to write a paragraph, how to even write a sentence. There are apps that can help you do that; there is technology that can help you do that.

So, I think teachers, certainly the ministry website, there's many many resources. LD@school is another website that is excellent in terms of the resources that are available. Mind Matters is another one as well that's excellent for teachers to go and get resources to help them support their students.

Lawrence Barns:

So we are drawing to a close here but I've got one last question because I think it kind of encapsulates what is most important about this topic. We find students, we've noticed executive functioning issues, maybe we've done some intervention with technology and other things, ultimately, I'm assuming, with the right tools, any weakness in executive function doesn't have to impact student success. Is that fair statement, or is there a time at which it will impact student success and the educator needs to be aware of it?

Dr. Gendron:

I mean, there's a lot of variability. I mean, it's a continuum. Kids who have difficulty with executive functioning, there's an entire continuum, from kids with mild difficulties with executive functioning to very severe difficulties with executive functioning. Throughout life, with support from the environment, with lots of strategies that may have been explicitly taught to them, many many kids will be able to still circumvent their difficulties and still succeed very very well. There is always going to be a portion of children, hopefully a minority of them, that, you know, will continue to struggle with executive functioning, it will continue affecting them in everyday life. I think, as adults we all know where our strengths are, where our weaknesses are, and we learn to use our strengths to overcome our weaknesses and that's really the same for a learner. Some of us are going to learn that more efficiently to overcome those difficulties, others are going to continue to struggle. What's important to remember is that learning difficulties, in general, and executive functioning just being one example, is a life-long issue. It isn't something, it really is a neurological difficulty that is a life-long issue, that we are going to continue to struggle with it throughout our lives. The important thing is to go look for the tools that we can draw upon to circumvent those difficulties.

Lawrence Barns:

Well I think that that is the perfect point in our conversation to call it a day. Dr. Gendron, I want to thank you for your time here in the studio sharing your expertise on executive function. I know I've learned a lot and I'm hoping our listeners have learned something today as well, that they can implement.

[Outro Music starts]

I have been Lawrence Barns; this has been TalkLD. Until the next time, goodbye.

