

Ben Best, co-host

Welcome to *Defragmenting*, a podcast of Cairn University, promoting biblical integrity and thoughtful Christianity.

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Neuroscientist and educator Dr. Jared Cooney Horvath recently testified before a U.S. senate hearing on the impact of technology on American youth, where he claimed "evidence indicates that indiscriminate digital expansion has weakened learning environments rather than strengthen them." This negative impact and what to do about it is the subject of his latest book, *The Digital Delusion: How Classroom Technology Harms Our Kids Learning and How to Help Them Thrive Again*. In this episode, he joins Dr. Keith Plummer for an informative exchange we trust will benefit and challenge parents, teachers and educational administrators alike. Let's join their conversation now.

Dr. Keith Plummer

I learned of Dr. Jared Cooney Horvath and his book *The Digital Delusion: How Classroom Technology Harms Our Kids Learning and How to Help Them Thrive Again* through the free press.com, which posted an adapted excerpt from the book late last year. And if you'd like to read it, you can search for it by the title "We Gave Students Laptops and Took Away Their Brains." Dr. Horvath is a cognitive neuroscientist, author and keynote speaker with an expertise in human learning, memory, and brain stimulation. He has published six books, over 60 research articles, and currently serves as an honorary researcher at the University of Melbourne and St Vincent's Hospital in Melbourne, Australia.

Dr. Keith Plummer

I wasn't far into the excerpt before I was convinced this was a book I had to read. And I wasn't far into the book before I reached out to Dr. Harvath to invite him on the podcast. And when he speedily replied accepting the invitation, I was elated. So, Jared, welcome to the podcast and thank you for agreeing to talk with us.

Dr. Jared Cooney Horvath

No, thank you so much for having me on and I'm glad you're looking into this topic. It's great for me.

Dr. Keith Plummer

Well, you begin the book by saying that there is a hard truth that our generation has to face, and it's better to confront it now than to keep pretending it isn't so. And that hard truth you say is our children are less cognitively capable than we were at their age. What evidence exists to support that?

Dr. Jared Cooney Horvath

So if you look at and we've been doing cognitive tests of different variations for, well, gosh, over 125 years now. So these are tests of, say, general intelligence, like IQ tests of memory, digit span, tests of attention sustain. So we've got these huge set of statistical, excuse me, psychological tests we've been running, and we also have a lot of tests that we can tap into internationally for academics. Things like reading exams, things like numeracy exams. And when you look at all these, you've seen pretty steady growth forever. Every generation has outperformed their parents. And that's exactly what we wanted. And we always chalk that up to school. Each generation outperformed their parents because they spent more time in school. And so here's where we started to say things like intelligence and cognition, they're trainable like any other skills. Practice more at it. You will get better at it. And then right around mid 2000, like 2005 to 2010, something happened where kids kept going to more school, but all these scores started to plateau and then eventually drop to the point where today, if you're looking at just straight academics, literacy and numeracy, they're below us.

Dr. Jared Cooney Horvath

Creativity, they're below us. Cognitive, excuse me, critical thinking, they're below us. IQ is now down. Basic memory functions are now down. Everything is down except for one. We've seen one thing go up amongst Gen Z, which is ability to comprehend rapidly switching visual scenes. Well, great. Anyone who's ever seen their kid scroll through TikTok knows, yeah, they're probably pretty good at that. So that's the one big shining star for them. But everything else, yeah, it's just been diminishing, especially since 2010. We've seen just kind of real big turn on all of these measures.

Dr. Keith Plummer

And when you title the book *The Digital Delusion*, what specifically is the delusion that you have in mind?

Dr. Jared Cooney Horvath

I think a lot of people believe that tech is infallible, that somehow this tool makes everything better, faster, stronger. And certainly that's the message coming out of Silicon Valley is that tech helps kids learn. Tech will make you smarter. Tech will give you access to all the information you could ever want, which is going to make you more creative than ever before. And so I think the delusion is the belief that somehow these tools were better for learning than analog tools, that a PDF is better than a piece of paper, that a keyboard is better than a pen and paper. And by and large we're finding out, nope, that was a mistake from the get go.

Dr. Keith Plummer

One of the things that really snagged me in your prologue is what you had to say about the Luddites, because. And people who have listened for some time have heard me say this before, but I don't think the Luddites were Luddites, as many people think of when they think about Luddites. And this was the group in the 19th century, textile workers who, with the introduction of more automated machinery, their livelihood was very much threatened. And they are known for destroying some of these machines and so forth. And people look at them as just being anti-tech. What you say that there's something that we can and should learn from them. Tell us a little bit about where we get them wrong and what is it that we could stand to gain from the example that they, they gave?

Dr. Jared Cooney Horvath

I love, I, I think the term Luddite has become a slur now. They, people use it to say, ah, you're, you're backwards thinking, you're just afraid of progress. And when you go and actually look back, the Luddites weren't anti-technology at all. In fact, they had used technology in their craft for centuries. They loved technology. What they were fighting, they weren't fighting against the introduction of a new tool. What they were fighting for was a way of life. They were fighting for a society, a culture that they understood. And they saw that with the introduction of these new tools that was going to completely upend their society. Had the tools not threatened their way of life, they would have been like, sweet, let's use those away. So I always say Luddites get a bad rap as though they were fighting against technology. No, they were fighting for, they were a positive group fighting for a cause. They believed in a set of values that they wanted to hold true. And I think that's where we can learn something from them. They were the first group to really stand up and say, look, there is no such thing as a neutral technology.

Dr. Jared Cooney Horvath

Anytime you introduce a new technology into a world, it's going to be ecological. So when I say ecological, what I mean is like think of a garden. If I introduce a new beetle species to my garden, I don't have my old garden plus a beetle. I have a whole new garden that's going to upend everything. All the nutrients are going, all the food chain is now going to change. It's an ecological shift. That's what technologies do to cultures. And they said, don't blindly accept new technologies without first determining what are going to be the ultimate costs of this. How is that going to change everything you value today? And they ultimately lost. They stood up and fight and they lost. But I think there's a lot to be gained from their example to say at least we can stand up and fight. And though they might have lost, the industrial revolution came and ate them up. Hopefully we can do a little bit better this time around so that the information revolution, or whatever we're calling it now will can at least maintain something that we want from our students. From our kids in schools, at least.

Dr. Keith Plummer

And one of the themes that comes clearly throughout your book is that you're raising the concerns that you do raise because you think that many of these technologies actually run counter to how it is that we learn. Yeah.

Dr. Jared Cooney Horvath

And that's so my focus has always been learning how I spent, what, almost two decades studying how do human beings learn? So tech was never even a part of my. Like, if you took a master's course with me at university, we do 36 hours on learning. I wouldn't mention ed tech once, because who cares? My understanding was if you understood how learning works, you automatically know why tech is not going to be good for that process. But it wasn't really until Covid hit and everyone went digital. And it started as a band aid. I got it sweet. But Covid ended, and everyone's stuck with the band aid. They're like, bring those computers into the classroom now. And that's where I had to stand up and say, guys, stop. Go back to basics. How does attention work? How does memory work? How does learning work? And now we can ask, are these tools aligning with that, or are they circumventing those processes? And as you can guess, by and large, they're just. They're not good for any of that stuff.

Dr. Keith Plummer

Well, in the first chapter, you identify a number of what you call myths that EdTech was built upon. And with each of the myths, you give a corresponding misconception. And one of the myths, the first one you start out with, is that education is broken. And the misconception is that traditional schooling is failing and only EdTech can save it. And that is related to what you were just saying. You write there. "The very problems most often used to rationalize edtech in classrooms are in no small part being caused by edtech itself." Yeah, could you say a bit about that?

Dr. Jared Cooney Horvath

It's common refrain right now to say education is broken. Education is broken. Education is broken. And I've tried to track that back. I mean, time immemorial, people have said, education is broken. But if you're just looking at pure numbers, we peaked right around 1995 to about 2005, 2008. Man, we were killing it. That's probably the best school has ever been. And if you think by any metric you want, kids have access to it, more kids are succeeding through it. Gaps were shrinking. Gender gaps were gone. Racial gaps were starting to shrink. Gaps were shrinking. Scores on any standard SS you want were going up. It looked like we were finally doing it. And that's right around the time when ed tech really stood up and said, education is broken. And I, for the life of me, I can't figure out how they got that narrative to stick. Except for TED Talks. That's like the only place I keep coming back to is most parents, most culture got their information during that period from TED talks. And if you look at any TED Talk about education from mid 2000s, every single one is education is broken.

Dr. Jared Cooney Horvath

It's killing creativity, it's killing. Even though no data supported it, they were saying these things and they'd get millions of people saying, oh yeah, education sucks me. And so of course it's TED Talks. The T in TED is tech. So what's the solution? It's going to be technology. So they start bringing in all this digital technology, and it was only once they started really bringing the tech in, that's when scores started to drop. That's when, wellbeing started to drop, that's when socialization started to drop. So all these problems that they invented for schools actually did come to pass, but it came to pass through the supposed solution, not because they existed in any way before that solution came into schools. So I always say, yeah, tech, if school is broken, tech broken, they claim to be the solution, but they invented a problem. And that makes sense. If you need to sell something, you better have a problem. So real hard to sell a tool if you can't convince people that what you're doing right now stinks, even if it doesn't.

Dr. Keith Plummer

Yeah, well, that's related to another myth that you identify in the chapter that seems maybe at first kind of intuitive. Children seem to be captivated by various kinds of technology and things that get their attention, that are colorful, that are gamified and so forth. And, and so if you apply that to education, then wouldn't it seem to make sense that that would keep them engaged in that way? And you say that it's a misconception that the more stimulating the experience, the better the learning.

Dr. Jared Cooney Horvath

And that's. You've got a real triple edged sword there. One is just the pure content, right? People assume if something is flashier, it sounds better, looks nicer, you're going to learn more from it. Decades show that that's not true. We learn from good pedagogy. If you had a really good teacher

who had no visual aids and a bad teacher with the best visual aids in the world, you're going to learn more from the good teacher. It's not magic. So it turns out the visual aids, the sheen factor, didn't really ever play much into education? It was there. But the one thing good visual aids do is they engage kids. Which leads you to the next problem, the second edge of the sword. Engagement is not the same thing as learning. You can be wildly engaged with something and not learn anything or mildly engaged. So most people think of engagement kind of like a linear more engagement, more learning. It's better to think about engagement as dichotomous. If you're disengaged, you're not learning. But as soon as you're even mildly engaged, you can now learn as much as someone who is wildly engaged. And so we see that a lot in.

Dr. Jared Cooney Horvath

You've seen a movie before, like a superhero movie at the time, it's engaging as heck. You love those two hours today you couldn't tell me anything about it. Then there are other films like *Affliction* or *Schindler's List*. Not engaging at all. Very hard to watch, not fun in the least. But because of the processes of thinking about it, talking about it with your friends, debating what different scenes meant, you remember so much more about that. That's the pedagogy over the engagement. So we. So the second set edge is people mistake engagement for learning, and it's just not the same thing. Which brings us to the third edge is the engagement that tech uses to keep kids engaged is doubly bad for learning in the sense that a good kind of rule of thumb when it comes to learning is you will only remember those things you pay attention to. Or as Dan William, he's a cognitive scientist, says, memory is a residue of thought. What are you thinking about? That's what you're learning. The tools ed tech uses to engage kids are wildly engaging, but they engage you in the wrong stuff. They engage you in the mechanics of the game.

Dr. Jared Cooney Horvath

In the Flash, can I get a high score? They're not engaging you in the content to be learned. So my example of this, and it's very personal, comes back to the Oregon Trail. I grew up playing the Oregon Trail. That was our edtech. To this day, man, I could tell you everything about that game. Spacebar shoots the the gun. You can move four spots up, two spots over. That's as far as you can go when you're hunting to ford a river. Press P as fast you can't. I know. I know exactly how to play that game. It was only recently that somebody told me that that game was meant to be a history lesson. Well, the one thing I can't tell you is anything about the actual Oregon Trail. I don't know when it started. I don't know who's involved. I don't know why Dysentery was a big problem. I was engaged, but the engagement was forcing me to focus on the wrong stuff. I was focused on the mechanics of the game. And. And so later, when you ask me, what did you learn about the game? I learned how to play it. That's about it.

Dr. Jared Cooney Horvath

And so that's where a lot of these kind of gamified trick things ed techs are using to say, hey, kids are spending two hours online. That doesn't mean learning. And that certainly doesn't mean they're learning the things you want them to be learning so much as they're just learning how to play your game.

Dr. Keith Plummer

That's somewhat of the same kind of mentality that went into, say, shows that we have become very familiar with, like *Sesame Street*. Yeah, I, I remember how Neil Postman, in *Amusing Ourselves to Death* refers to that. And he says, one of the unintended outcomes of that is that having these short, entertaining, engaging segments became the expectation in the classroom.

Dr. Jared Cooney Horvath

Yeah.

Dr. Keith Plummer

And students, they were kind of almost demanding that, expecting that, and teachers accommodated that and that led to some deleterious outcomes.

Dr. Jared Cooney Horvath

And at least you could say we can build a new context if, let's say, kids only ever watch *Sesame Street* on a screen. You come into a classroom, we say, well, there are no screens here. At least we can try and build something new on a screen, think like this. Off a screen, think like this. But you see how that just got even more conflated when it went from television screens to computer screens. Because now, now I'm learning how to think on this screen like this. And I see that exact same screen sitting in front of me in a classroom. Of course I'm going to expect this too. You don't even have that context break anymore to say we're in a different realm. And so it's not shocking that that would get. Postman was the most. I think he was the most prescient person in the world. And people, when people say, who could, who could be around your dinner table, alive or dead, that you could talk with? He is always number one on my list because I just, I think he was so spot on with all of his arguments. And it only got worse since he's left.

Dr. Keith Plummer

Well, let's talk about some of the defenses that are offered for edtech. You've got a great chapter in the book, really helping people to know how to respond to some of the most commonly encountered apologies in terms of defenses of edtech. And one of them has to do with the idea of, well, children learn differently now because they are digital natives. Unlike us, we didn't have the - we weren't immersed in technology, but children now they process differently and they learn differently. And so we've got to employ some kind of educational tools that are going to address that. Why is it that you, you think that doesn't hold water?

Dr. Jared Cooney Horvath

It's funny, I, as a neuroscientist, people get mad at me when I say this kind of stuff, but I, I'll, I'll back it up as much as we need to. Learning human biology. Learning is a biological process. And biology has evolved for 150,000 years to do something very, very specific. Now, by all means, we have wiggle room within that biology, but none of the big stuff will ever change. If it does, you're no longer a human. You'll be some new species. So all human beings digest in the exact same way. I don't think anyone has a problem with that argument. Of course they do. No one spits acid. No one absorbs nutrients through their skin. We all chew and output waste. Now, by all means, some people might need some support going through that. Some people might be able to put in different things like, I can't process gluten or I can't process lactose. But none of that changes the process. The process stays exactly the same. All human beings breathe in exactly the same way. Of course they do. No one's surprised by this. What we breathe might change. I might smoke, you might not.

Dr. Jared Cooney Horvath

Some people might need an iron lung to support the process, but the process by which we take in oxygen, exhale CO₂. Same for everyone. Every human being learns the same way. If learning is a biological process, then that means the process by which learning information is instantiated within our biology is the same for everyone. And it always has been and it always will be. Just because we bring new tools into the mix, that might change our preferences, that might change what we want to learn or how we choose to engage with stuff. But that isn't going to change the underlying process. So for anyone who argues that kids learn differently today, if they're human beings, they most certainly do not. What we see is they have significantly different preferences in how they engage with material. Now we can say, cool. Are their preferences better or worse for learning? And hands down to a preference, they are worse for learning. Everything they like to do kind of goes against the biology of what we need to do to make learning work better. So, I mean, that's the same thing. It's like if we talk about every human being digests the same way.

Dr. Jared Cooney Horvath

Some people like to drink copious amounts of alcohol. That's their preference.

Dr. Keith Plummer

Cool.

Dr. Jared Cooney Horvath

You can do it, but my goodness, you're not going to come out as healthy as someone who didn't just do that. Someone loves to smoke two packs a day. Cool. You could do it, but your lungs aren't going

to come out as healthy. It's the same thing with learning. You can use a computer, you can multitask all day, but you're going to come out much slower, weaker, less durable in your learning than kids who didn't do that stuff. So it's, it's this where we mistake preference and assume that because kids like it, because kids want it, then we need to cater to that. And honestly, man, name one other scenario where we do that with students. It doesn't exist. Like, my two year old loves popsicles, so the argument is she now eats differently than me and I should give her popsicles all day. No, we recognize in this scenario, I'm the adult, she's the child. She doesn't understand enough. My job is to raise her in a healthy way. It's the same thing with learning. Kids aren't mini adults. Teenagers aren't the same as us. They just smell like Ax body spray. They're very different than us.

Dr. Jared Cooney Horvath

And our job is not to cater to their whims. It's for us to be adults, recognize what it takes to achieve expertise, and help them walk along the best path to get there. Not to say, well, if you like it, then we better change the world for that. So that's why I always kind of giggled. It's like in nowhere else do we cater to kids like this, but in schools, people keep yelling at us that we're doing wrong by them by teaching them in an analog way. Prove it. I would take my analog kid over those digital kids in that classroom 10 days out of 10 and they're going to outperform 10 days out of 10. Because learning happens in a very specific way and we can do it better than what they're doing.

Dr. Keith Plummer

Well, there's two things that you just said I wanted to ask you to elaborate on. One is what is the difference between and maybe the confusion that exists in not acknowledging a difference between them between preferences and learning styles? Yeah, because learning styles is something we hear a lot about. And you're, it sounds like you're saying, well, what we're calling learning styles often is just a difference in preference?

Dr. Jared Cooney Horvath

Yes.

Dr. Keith Plummer

Preference may not actually be conducive to learning.

Dr. Jared Cooney Horvath

So in research, we no longer even say learning styles. We do just say learning preferences, because it was never. There's no biological reason anyone learns one way versus another. So it's, we choose to go down certain paths, which is totally fine. But off the back of that, we've learned two very important things. One is what's called the fluency illusion, is when it comes to learning, especially the easier something is for you, the better you think you understand it. But it typically is the exact opposite. The harder something is for you, the better you are now learning it. So now give kids a preference. You get to choose how you want to learn. You get to choose what you want to look at, what strategies you want to use. Most kids will choose the things that come easy to them because it feels fluent. And they're going to mistake that for fluency. They're going to think, I'm really good. Then they're going to take a test. They're going to be like, oh, man, I stunk at that. Rarely is a kid going to choose the hard path, but the hard path is going to be the thing they need.

Dr. Jared Cooney Horvath

So what we found is preference leads to this fluency illusion, which leads you to picking the worst paths for learning. But beyond that, when we align pedagogy, when we align our teaching to the content rather than the learner, everyone ends up learning better. So it turns out preferences don't even seem to matter. So if I'm teaching dance, everyone learns better if we get up and dance versus if some people want to read about it, some people want to listen to a song about it. If we want to teach painting, everyone work better if we paint than if we describe it to somebody else. So we realize that a lot of these kind of preferences are. They're interesting, but realistically, we gotta go back to core pedagogy. And when we align our teaching to the content, rather than trying to appease each kid's preference, everyone, even the kids who don't get that they're doing it, will learn better together. So it might end up being just a moot point. In the end, the entire learning styles versus preferences argument might be meaningless. Once we remember, hey, go back to good teaching, everyone's

going to be fine.

Dr. Keith Plummer

The other thing I wanted to pick up on is you have a number of instances showing the difference between analog approaches to things like note taking and literacy and so forth, as opposed to digital. And let's just take one of them. You have A section. Note taking: Pen vs. Keyboard. Now, you're. And I'm thinking about this at, say, in the context I'm in, university students, they want to do things fast. And so typing as they're listening to a lecture and so forth. That seems economical. It seems fast, as opposed to writing your notes by hand. That seems inefficient and slow. But you're saying that when it comes to learning, there's actually an advantage to the pen.

Dr. Jared Cooney Horvath

Oh, 100%. So if you. The issue is exactly what you just said. It's inefficiency. It's a speed thing. Most students, especially at the university level, can type about as fast as I teach, which means if you've got a keyboard in front of you, you're going to do what we call shallow note taking. You're going to write down every word you hear, like a courtroom stenographer. You hear it, you write it. Now, after that class, you're going to have copious amounts of notes. But if I go up and ask you, hey, what did we just learn today? You're going to say, I don't know. I got to go read my notes. Because you are only. Because when we. When we're doing shallow notes, the only thing of importance is the sound and the order of the words. Did I hear it? Did I write it? The meaning of the words is totally irrelevant. So we did that research, too. Ask stenographers at the end of a court day, what was that case about? They can tell you the big thing.

Dr. Keith Plummer

Murder.

Dr. Jared Cooney Horvath

And can say any details. They'll be like, no, because I was just writing words. Now go to pen and paper. There's not a human being in the world who can handwrite as fast as I teach. So by definition, if you're taking notes with pen and paper, you can't get it all. So you're already parsing out meaning. You're already thinking about, how does it fit together? What are the big themes? What are the ideas? And when you're writing things down, you're now basically summarizing. You're getting main concepts of meaning as opposed to just sounds of words coming at you. And that's why handwritten notes are so gross, right? You've got lines and arrows and crosses. And this goes over here. That is a sign that you're processing the deeper meaning of what you're hearing, not simply the sound of what you're hearing. So I always say, like, one of the easiest changes you can make. No, no keyboards in my room. Like when I teach at university, A lot. Same as you. My kids hate it because there's nothing allowed in my room. There's no pen, there's no paper, there's no notebook, there's no computer. There's nothing.

Dr. Jared Cooney Horvath

It's me and you. Now, people get really tripped by that, so bear with me. Here's where I go with that. During the learning portion, we are just learning together. And I always tell my students, watch how much more you learn if you just engage with me. None of you take notes when you watch a movie. None of you watch Stranger Things with a notepad and type things out. When you engage with the content, you will understand the content. And trust me, I, I can make you get this. And you're going to ask questions and we're going to go back and forth in the last 10 minutes of class, take out a pen in your notebooks. Now we're going to do some group note taking together. And that's how I'm getting them to think about meaning as opposed to just typing. And you see a lot of kids are doing this now too. They'll come to your class and instead of even typing, they'll just put up a tape recorder and record your lecture. And then while they're scrolling on their phone, it's like, dudes, we got to think about this differently. So I figured that's kind of the sweet spot between they need to know what they need to do to learn and we need to then reorganize some of our teaching to not give them those easy outs to say.

Dr. Jared Cooney Horvath

Okay, well, yeah, you got your recorder on. Don't worry about it. If I see a recorder in my room, get your

bum out of my room. That ain't happening here.

Dr. Keith Plummer

So in those last 10 minutes where you do the group note taking.

Dr. Jared Cooney Horvath

Yeah.

Dr. Keith Plummer

What's going on there? Like, are you, are you lecturing or what does group note taking look like?

Dr. Jared Cooney Horvath

So here's where together we're going to take notes. Now, one of the most important things you can learn about memory is this is memory is constructive. The only thing that makes memories deeper, the only thing is to access those memories. So we like to think that if I put information back into my brain, I'm learning something better. Nope, it's taking information out of your brain that makes that deeper. So go back to what we were talking to again about the fluency illusion. You give a kids a choice. Most of them will like, reread their notes or I'm going to re listen to your lecture and I'm going to put the information back into my brain. That's not going to do much. It'll do a little bit, sure, but not a ton. You want to turn study time at a good time. You better be ripping those memories out. Take a practice quiz, try and rewrite your notes from memory, then check them back for accuracy. And again, no kid will do that because it's hard. But the difficulty is what we need to be doing. So in my group notes to. To drive that kind of recall, what I'll do is I'll say, all right, we hit six key topics today.

Dr. Jared Cooney Horvath

Topic one was, I don't know, the striatum. Go. What do we know about the striatum? Someone tell me something. And then someone will say something. I'll say, all right, do we agree with that? Disagree. Who wants to add to that? So what. I'll give the prompt, but what I'm trying to get them to do is now rip out everything we were talking about. So now we're deepening the memories in that session. And then since I'm there with them, I. That's where we can correct misconceptions and go, ooh, actually, we said this. Or, ah, did you guys think about this? You think that's important? So it gives me a little bit more kind of wiggle room to sneak things in there as well. But that's just. Yeah, it's just one of the ways I've come across just to try and put that rigor, that effort back into our work.

Dr. Keith Plummer

That sounds good. Before we take a brief break, I want to ask you one other thing that often comes up again. Talking about the defenses made for edtech. We are in a very technologically progressing age, and don't our children need to learn about various digital technologies in order to live and work in the world that they are going to be going into? What do you say to the person who offers that as the reason why they need to be using these tools throughout their learning?

Dr. Jared Cooney Horvath

There's a ton of things in this world that kids are going to have to live with that we don't believe we need to teach them in kindergarten how to deal with. Everyone will drive when they're older. Love it or hate it doesn't mean I'm teaching a young kid about driving or doing all school in a car. Here's where you really start to differentiate between learning how to use something or developing skills and then offloading those skills. So as adults, we use computers because we're already experts in what we can do. I knew how to write before I started using a computer. To type. I knew how to do statistics before I used AI to run statistics for me. When we bring those offloading tools into learning, kids will never learn the basic process. They will only ever learn to offload. They will use the same tool I use to do stats. They'll be able to pump out numbers, but they'll never understand what stats are or how to do it. So they'll always be constrained by only what the tool does. They can never think outside of it. So I always say one of the key things to recognize if you teach kids how to use a tool, they will be able to use those tools.

Dr. Jared Cooney Horvath

If you teach kids how to think and to learn, then they'll be able to use every tool. And that's the point of

a General K through 12 education. The operative word in that has always been general. We're teaching you how to think. We're not teaching you history because I expect you to be a historian. I'm not teaching you writing because I want every kid to be a novelist. We're teaching you these things because we're teaching you how to think. Think and adapt through patterns, notice processes, and think through systems. When we circumvent that and replace that with teaching tech, here's how to use Excel. Here's how to use a computer. Well, cool. They'll be able to use Excel. Don't be surprised when Excel evolves. And they can't go past there because you never really taught them how to do anything besides type into that system. And so for the people who don't believe me, I think one of the most important kind of statistics are here.

Dr. Jared Cooney Horvath

There's an international test called the iCils. It's the biggest international test on computer literacy and digital literacy. It was given in 2013, 2018 and 2023. From 2013 to 2023, the percentage of kids around the world who are competent in computers and computer use and literate dropped 22%. But during that time, the percentage of kids who use computers daily at school and are explicitly taught how to use them rose 550%. So we've been doing nothing but teaching them the tool. And the kids graduate and they can't do it. Why? Because it was never about the tool. It was about the learning that we're now circumventing by bringing the tool in. So I go back, believe it or not, man, Gen Z is equivalent to Gen X when it comes to digital competence. And no one is arguing that we need to teach Gen X people tools, tech.

Dr. Jared Cooney Horvath

They grew up without tech and they can use it just fine. Why? Because we taught them how to think. So once we return and we remember, look, your kid will be able to use a computer just fine. Trying to guess what the future is going to be is a mistake. Remember 10 years ago we said every kid needs to learn coding? So every school had a coding class. And what's the one thing you don't have to learn anymore with AI? Coding. Congratulations. Whoops. It'd be like telling him, we got to learn. Teach every kid how to. How to use Morse code. Well, that's obsolete. Don't try and guess the tool. Stick with the foundations. Keep kids General. Keep K12 General Keep. Learn how to write, learn how to read, learn how to do arithmetic. Bring all of this stuff together, and I promise you, whatever tool comes their way, when they're older, they'll adapt to it just like you and I did. No one taught me to use AI I can do it just fine. It ain't hard, because I know how to think.

Dr. Keith Plummer

Yeah, you say in that section, arguing that a topic should be taught is very different from arguing that everything should be taught through that topic. The first is a question of curriculum, what we teach, while the second is a question of pedagogy, how we teach. And I find that distinction very, very helpful.

Dr. Jared Cooney Horvath

And it's been very conflated recently is I think a lot of people say, if kids need to learn about computers, then computers should be everywhere. And it's like, well, cool if we think kids need to learn about computers. And I'm open to that question. That's a curriculum. That's a class. That's a curriculum argument. That means sweet. We have a computer lab, and when it's time for computer class, we go to computer class, just like we have a shop lab. Somehow, though, through some linguistic alchemy, the argument we need to teach about computers has morphed into, we need to teach all skills through computers. And that's the pedagogy. And that's where I go, ooh, I don't think anyone believes every class needs to be done in woodshop. But for some reason, when it comes to tech, everyone bleeds the two. And now we're like, let's teach math through a screen. Let's teach writing through a screen. And that's when I go back and say, no. Each subject, each curriculum, has its own pedagogy. Align that, but don't plug your tool in where it isn't the best fit. If learning how to read, if learning from paper is better than a screen, don't bring in a screen.

Dr. Jared Cooney Horvath

You're not going to harm your digital literacy by not having a screen there. You're only going to increase it because you're increasing your actual literacy, which you can then move on to the screen.

Dr. Keith Plummer

Let's pause here for a brief break. And then on the other side, I want to talk about something that you devote two chapters to, and that is AI.

Ben Best, co-host

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Dr. Keith Plummer

I am back with Dr. Jared Horvath, who is the author of *The Digital Delusion: How Classroom Technology Harms Our Kids Learning and How to Help Them Thrive Again*. And we're only touching on some of the content of the book. You've got a chapter on smartphones and the impact that they have on learning and behavior in schools. You've got multiple resources for parents and educators. You devoted, I believe, appropriately so, two whole chapters to the subject of AI, something that is in the news daily, if not hourly because of the rapidity with which that technology is booming. And the first chapter that you deal with, you say part one, the tool nobody asked for, solving problems nobody had. So now we're about three years, a little over three years down the lane with the large language models like ChatGPT and Claude and others everywhere. What do you think is the primary danger when it comes to learning? I know you already mentioned this in terms of offloading and some of the difficulties there. But as you think about where we are now with AI and you think about how people learn, what is your greatest or one of your greatest concerns?

Dr. Jared Cooney Horvath

I'd say you've got your kind of twofold there. One is the offloading. That's where you realize AI, if it can be said to be anything, and I can't even argue that it's this, if you had to pin it, you'd say it's a production tool. It's there to help you create things. It is not a learning tool. It's not there to help you learn how to create things. As an adult, I'm in the business of production, so maybe I can find some use in. But as a kid, you're not in the length in the use. I don't. You don't produce anything. You're in the in the business of learning and it has nothing to do with that. So already I'm just thinking, oh, why would we ever want this in a school? But I think one of the biggest arguments a lot of people have been making about it is don't kids no longer need to waste time learning stuff because AI can do the stuff for them and free them up to the. To then enter into creativity mode, to then enter into critical thinking. This frees us up from the tyranny of learning facts and allows our kids to just flourish.

Dr. Jared Cooney Horvath

And that's just the grossest misunderstanding of learning and creativity and human development that I could possibly understand. So, okay, creativity. Even if you and I just saw a commercial about this. Creativity is asking good questions, Claude. Ask better questions, mate. Your ability to ask questions is 100% dependent upon your knowledge base. So if you said, ask me a good question about neuroscience, ooh, I could ask you a dozen. If you said, ask me a good question about car repair. I don't know the first thing about car repair. So the first question I'm going to ask is, what is car repair? How do you do it? Now go to a kid. A kid has no expertise in anything. Not because they're idiots, because they're young, they're developing expertise. So when we use these tools to say, don't worry about learning stuff, go right into the deep creativity questioning. A, it misunderstands. Your questions will always be confined by your knowledge. But B, it misunderstands how higher order thinking works. All higher order thinking, not just questioning, go to creativity. All of that will be constrained by your knowledge. Not what knowledge you have access to, but what knowledge you have embodied within you.

Dr. Jared Cooney Horvath

And the reason for it is the vast majority of what we call higher order thinking is subconscious. Take creativity. Creativity works like this. Pick a problem, you will consciously try and tackle that problem. After a couple hours, you're going to stop, you're going to say, you know what? I'm exhausted. I've had enough. I need to go take a walk, I need to take a nap, I need to eat. Whatever I'm going to do when you leave the problem, that's when your biology gets to work. Now, completely devoid of any input

from you, your brain, your biology is going to say, cool, you were just thinking about these six things. Let me do a process called reconsolidation where I'm going to tie those six things to these 600 things that you never even thought of. You forgot that in fourth grade you did something just like that. Oh, in second grade, remember this little fact here? And that's why every Once in a while when you're doing nothing, you'll have what we call a moment of insight. You'll just be cooking dinner and all of a sudden you go, oh, oh, I just got a really good idea.

Dr. Jared Cooney Horvath

Somebody give me a pen and paper, I gotta write this down. That's your biology getting to work. Some people estimate that up to 80% of all creativity happens when you stop paying attention. But the problem is your brain can, your biology can only work with the information you have inside of it. You can consciously access ChatGPT to look up facts, but your brain can't. So when you go into that diffuse thinking mode and you go into that subconscious processing, your brain is stuck only with what you've learned, only with what you've taught it throughout the years. And that's why you will always get stuck. So I always tell people, the number one way to make sure your kids never are creative is to try and use digital technology to stop them from learning things. You have to know stuff. Stuff is the building blocks of all this high order thinking. And when we try and erase that knowledge base from schools and somehow, hey, you're six years old, you can solve the problem of global warming. No, you can't, because you don't even know what those words mean yet. Let's go back to the basics, give them time.

Dr. Jared Cooney Horvath

And then we expect creativity as they get older, not when they're just kids learning this stuff.

Dr. Keith Plummer

It seems that another piece that is integral to what you're describing is there has to be downtime, mental downtime. I've been very interested in some of the research that has been done in showing the place of boredom in creativity. And if we are constantly demanding stimulation of some kind, that in itself is going to damper creativity. Yeah.

Dr. Jared Cooney Horvath

And so go back. In order for your brain to reconsolidate, which is the biggest process of creativity, which is only happens during downtime, you need to be in that state, what we call diffuse thinking mode, which where nothing is really going on. Cooking, walking the dog, driving the car, singing along to radio. These are all what we call low stimuli cognitive events. You can do this other work in the background. Anytime you engage with a deep cognitive event or a high stimulus cognitive event, your brain can simply never get into that mode. Now what does a smartphone do? Image, image, image, picture, clip, type like it's so fast and so wickedly cognitive that your brain never can settle into that kind of slow down boredom mode. And so you never get a chance to really enter into that deeper thinking, that deeper creativity and I just read a shocking statistic today and I'm gonna have to dig it out a little bit more. But somebody, I read somewhere today that 98% of downtime teenagers are going to be on their phone now, 98% of all downtime. That means if they're in a line, they're on their phone, if they're in a car, they're on their phone.

Dr. Jared Cooney Horvath

If they're in a bus, they're on their phone. You will never get a chance to let your system reset and enter into deeper, higher order thinking if you just keep doing that. So there is a whole heck of a lot to be said not just for creativity, but for these downtime periods, even just think about learning, right? The chemicals we, we use to engage with active learning, they deplete wickedly fast, but they can replenish in times of rest. So a lot of school used to be 50 minutes on, 10 minutes off, 50 minutes on, 10 minutes off. And it's in these little 10 minute windows that we were doing a lot of biological work to reset the system, reset the memory, start again these next 50 minutes. When those 10 minutes became filled with screens and scrolling, the brain never quite figured out that class A is done. I have period before class B is going to start. And it just kind of bled all of that together. And learning starts to drop because your brain never knows when to stop, stop and replenish itself. So even just take creativity off it, even just basic learning is going to suffer because we do not have these moments to let the system cool down and reset it, replenish its stores.

Dr. Keith Plummer

What about the response of with AI, we have the ability to customize tutoring by student and isn't that something that enhances learning in a way that no one teacher could do with a classroom full of students?

Dr. Jared Cooney Horvath

Yay and nay. There is an argument to be made that personalized tutoring can support learning, but only in a very narrow fashion. The only time we've seen intelligent AI tutoring impact benefit learning is in a very narrow window. So any skill that has a right or a wrong answer, are you doing like math? Or if you type in something wrong, it says wrong. And something that's highly constrained in the parameters you can use. So basically you can use that to say learn how to read, but you can't really use that to read for learning, if that kind of makes sense, that kind of. So another way you could use it for math problems, but you couldn't really use it for civics where there is no right or wrong answer, where we have to discuss how things kind of fit together. But if we're in that kind of narrow window, absolutely, you could use it. But there's going to be two more issues you got to think about with that. One is what we call the transfer issue, and we've seen this since. So the very first adaptive tutor without AI was built in 1929 by William Pressy.

Dr. Jared Cooney Horvath

We're almost to the 100 year anniversary of the first teaching computer. That thing never took off because he himself flat out said weirdest thing. When kids are on the machine, they do fine. As soon as I ask them the exact same questions off the machine, they can't do it anymore. That's the transfer problem. We tend to lock our learning down to that context within which the learning happens. If we're not explicitly taught how to move it out, we never do. So when we use AI to teach us things, yet it can adapt very specific narrow windows for me. But we can't expect that kid to now actually be able to do any of those skills offline unless we do it with them. Unless we explicitly say, cool, you just did 10 weeks of learning with AI. Now we're going to do 10 weeks of transfer practice where we're going to learn the exact same stuff over here and we're going to apply it over here and try it over here. So because of the narrowness of the context of the screen, learning becomes highly narrow and hard to transfer off versus the real world. If you think about the real world is so dang nuanced.

Dr. Jared Cooney Horvath

Just take typing versus writing. Typing is the most uniform thing in the world. Doesn't matter how hard or softly you hit a key, you're going to get the exact same output here. Writing is the most nuanced thing you could do. If you have a pen, a pencil, a crayon, are you on paper, are you on cardboard? Everything is going to change what you need to do to make sure that works well. So when you learn to handwrite, you get a very nuanced, transferable skill. When you learn to type, you get a very narrow, hard to move skill. So we're going to have this transfer issue. But the other thing beyond that is, and this is going to Alpha school is going to come head up against us, if they haven't already go to MOOCs. So your university, you know, MOOCs, massive online open courses, MOOCs were going to change the world. We were going to put all this learning online and all of a sudden a kid in Iceland would be able to learn the same thing as a kid sitting in the middle of a Harvard Square. Hooray. We're going to equalize education. What happened?

Dr. Jared Cooney Horvath

Educational divides actually widened because of MOOCs. Why? Because 85% of people who complete MOOCs already have a college degree and 50% of them already have master's degrees or above. How did that happen? Because it turned out in order to succeed online learning in a MOOC, you have to have what are called self regulated learning skills. Basically, you have to be able to take agency metacognitively over your own learning. Otherwise online learning doesn't work. Now how the heck does anyone learn self-regulated learning skills? Well, you learn that through a structured K through 12 education. Any kid who's already made it through school, one of the things you pick up is self regulated learning skills. Now you can do online learning. So when we bring that kind of online learning into younger kids, into elementary school, middle school, high school, these kids don't have self-regulated learning yet. As soon as they start these kind of systems and programs, they'll know what buttons to press, but they won't be learning anything. They won't be able to go outside the

boundaries of what the machine is basically telling them. So how could we support that? Well, one of the biggest drivers of learning we have is empathy is connect with another human being.

Dr. Jared Cooney Horvath

When a kid and a teacher, or a kid and another kid connect through an empathetic path. And we could talk about that another time. Learning goes up incredibly. It's almost as if we were evolved to learn from each other, not from other things. Surprise. We did evolve to learn from each other. We have a whole system based on that. So if you have a choice between I tell kids this, an AI system that will give you the exact information you need at the exact moment you you need it, or liking your teacher, always choose to like your teacher. You'll learn more, better, faster, easier. It doesn't even matter that there are 30 kids around you, you will learn more from that connection than you will from the screen. So by all means it can be used to support this kind of learning. And as you get older, into university levels and kids have self-regulated learning skills, you can expect a little bit more from it. But especially if you think In K through 12, the evidence needed to make AI actually work as an effective tutor, it just doesn't, they don't have it, it can't work for them.

Dr. Jared Cooney Horvath

So that's my I, I, I look forward to the day Alpha Schools collapses. The same as Khan Academy's Brick And Mortar school collapsed. It's just, it's a gross misunderstanding of how learning works.

Dr. Keith Plummer

And, and for those who might not be familiar with that, could you just say what Alpha schools are? Yeah. So Alpha school is a model where basically kids come in and they use AI tutors personally for 2 hours a day and they 10x their learning. Hey, here's a good way to know you're not dealing with someone who understands learning. And if they use business terms like 10x to describe learning, you're probably beating your head against the wall here. So the idea is they can get through an entire year's curriculum in a couple of months. To which I always say any parent who's ever homeschooled could tell you, yeah, homeschools, they get through a year's curriculum in two months. That's not hard. The trick is, what are you doing those other eight months? Do you think schools are just twiddling their thumbs or do you think maybe they're working on what we call deep learning and progressive application? Maybe it's not just a matter of getting through a curriculum. Maybe there's more to this picture. And so that's why I think Alpha schools, where these kids, they're succeeding now. Oh, and somebody did just write an article recently where basically the way they're succeeding is they're only taking the top 2% of kids in high school.

Dr. Jared Cooney Horvath

So these are kids with self-regulated learning skills. So they're flying. And the second any kid starts to struggle, they basically kick them out of the school. Well, hey man, you give me that option, I can, I'll make the best school in the world.

Dr. Jared Cooney Horvath

I think that's called the Harvard model. Give me the top percent of kids and then I don't have to do anything because they're just going to do it themselves. Yay.

Dr. Keith Plummer

Well, one of the things that I really appreciated in what you were writing about and you just touched upon it when you were talking about empathy and the impact of a human teacher, was that human element. And as I mentioned to you in my initial email to you, this is a topic that interests me not only because of the educational component. You know, I am concerned about what happens at the level of K through 12 because that's what feeds into where, where I am. But beyond that, as a theologian, I'm concerned about the impact of these things on us. With respect to, you know, when I look at things like attention and literacy and those kind of things, I think that when you start to degrade those, you also have a degrading impact on the spiritual life. And we don't have to talk about that now. I would probably say that. I would say that I think that there is a telos to human being and not simply a random or even a naturalistic reason for these things. But.

Dr. Jared Cooney Horvath

Yeah,

Dr. Keith Plummer

but one of the things that you said in the book, and this is a major area of concern, and I think it's an area that parents need to be aware of because of we're now at a place where there are at least five suits that have been brought against AI companies because of children who have taken their lives. And what you say is arguably the biggest problem with modern technology is its obsession with mimicking human beings rather than leaning into its unique digital capabilities. Developers often fixate on making the machine invisible, on tricking users into believing they are interacting with a real person. That is so inviting and so deceiving. And I look at things such as OpenAI because of some of these suits and other companies, they're saying, well, we're going to put restrictions on, we're going to do these things. But you know, there's this tension there because on one hand they have to have the small print. This, you know, this isn't a person. And. But then it's using the first person pronoun and it is in. It's interacting as though a. A person. And I think that many people are of the mind that, yes, this can mimic what a teacher does and therefore problem solved.

Dr. Jared Cooney Horvath

Those are the same people who invariably were mad at education for just being a conduit for passing along information. So remember, for like two decades, there was like a whole movement of people who were like, education is not about filling a bucket, it's about lighting a fire. Oh, we don't just want to give kids information. We want them to think. Those are the same people who come along and say, AI is really good because it can give kids information very fastly the way a teacher can. So I always just kind of giggled that the people who hate X when a human does it love it when a machine does it. And then they say, fire the teacher because the machine does it better than them. Look, teachers aren't important for what they know. They're important for what who they are. One of the biggest. And I'm totally fine with the spiritual. It does not faze me in the least. I'm probably the least materialistic scientist you'll ever meet. I just, it never really solved any problems for me. And so the argument that I always said the way science has addressed it is through what we call emergence is rather than saying something came from the top down like a soul was came down into us, we emerge from the bottom up.

Dr. Jared Cooney Horvath

To which I say it's the exact same thing. It doesn't faze me. We're talking about the same thing. What we're talking about is human beings are more than a brain. The reason why we haven't found consciousness in the brain is because it doesn't exist there. You're not a brain any more than your heart, than you're your lungs, you're your toe, your finger. You're not in any of this. You are of all of this by all means. You emerge through its interaction, but you are qualitatively more than all of this. Now we get to do research on something like empathy. So what is empathy? A lot of people think empathy is an emotion. I am empathetic. I have empathy. No one has empathy. It's not a personal thing. Empathy is a transpersonal emergent property. What happens is when two biologies come together and they start to resonate, you get an empathetic response. We call it physiological synchrony. In a very real sense, if you and I are empathizing right now, our hearts will start to beat at the same time. We will start to breathe at the same cadence. We will blink simultaneously. If I could image our brains, our brains would look almost the same.

Dr. Jared Cooney Horvath

Now, what is the mechanism by which this happens? Nobody knows. People are talking magnetic waves and there's magical stuff. But that's where I'm like, sweet. There's an element that we don't know, but we know matters, which is very much that human beings connect with other human beings in a way that then drives learning. When I said empathy drives learning, it's one of the most powerful drivers we have. If we get an empathetic response between two people, learning goes through the roof. So this is where AI comes in and says, we're going to try and mimic empathy. But you can't mimic it. It's not. You can't fake it because no one's doing it. It's like if I show you a picture of a sun, you might say, hey, that makes me feel warmer. But you're never going to get a tan because the mechanism is gone. It's the same with empathy. You could have kids being like, I love my AI. Sweet. You're never going to learn more because the mechanism of resonance simply isn't there. I'm sorry. So AI has this had this opportunity, I think, to just lean into the techness of it to just go lawnmower

man on everyone and say, yeah, we are technology.

Dr. Jared Cooney Horvath

You are talking to the most advanced piece of technology ever.

Dr. Keith Plummer

Woohoo.

Dr. Jared Cooney Horvath

Instead it tried to erase all acknowledgement that it doesn't do anything. All it's doing is getting its information from us. So when you talk to an AI, you're talking to us. And I always say bring that back to kind of identity formation. One of the most important things we can do as human beings is find our spot in the history of man. Where do I exist? Why do I exist? Where did my ideas come from? How am I adding to those ideas? And hopefully how might that flood into the future? And we always were able to do that through provenance of ideas. Like you read my book, I have 50 pages, excuse me, 90 pages of references in the back that any argument I make, here's the person who made it first and you follow that back, there's the person who made it before them. We have this kind of linearity of ideas. AI comes along, it says this stuff doesn't tell you where it got it from, doesn't tell you how it thought about it, it makes it feel like it's brand new. And now me as a user, especially if I'm a kid, I'm not going to tell anyone AI did it.

Dr. Jared Cooney Horvath

I'm going to pretend that I invented that. And now there's no lineage to my ideas whatsoever. I think I'm the smartest, most genius human being ever. Because all these things I came up with, which if you would have just read *Crime and Punishment*, you'd have seen no Dostoevsky as if you said that 100 years ago or whatever it's going to be. So I think we're going to get this real issue with identity formation too, where we start to recognize a lot of the markers we use to figure out who we are. How do we, who should we be are just being erased by this tool that's pretending to be one of us and pretending to be the smartest one of us that ever existed.

Dr. Jared Cooney Horvath

I sorry if this bores your listeners. I just find this interesting is if you think about it, adolescence has always been narcissistic. And what is narcissism? So Narcissus, Everyone thinks Narcissus fell in love with himself. He didn't. Narcissus doesn't fall in love with himself. He falls in love with a reflection of himself. And that myth wasn't telling you about the dangers of self love. It was telling you about the dangers of offloading your identity of allowing the world to determine who you are and then falling in love with that reflection without ever really understanding who you genuinely are.

Dr. Jared Cooney Horvath

It's about offloading of identity. Now, adolescents are always time immemorial. We. We're narcissistic. That is the time of our life where we want our peers to tell us, wear this. That's not funny. You're a loser. Oh, that haircut looks cool. We're trying to kind of calibrate. Internet comes along. It just blows that system up. It 10x's that system. It magnifies it incredibly. Because now it's not just my 10 friends, it's thousands of people around the world are telling me what's good and not. I. I write a song, I put it online. I wait to see. Do I get a thumbs up? Do I get a thumbs down? And you start to see it. The song is neither good nor bad until the world tells me it's good or bad. My painting is neither good nor bad until I get my response. But at least during this stage, you can still say kids were making things. At least they were still writing the song. They were asking people to judge them on. AI comes along. They're not doing even that now. They ask AI to write a song that they put online that other people judge, and then they use that as their own identity, as I'm good or bad because of this.

Dr. Jared Cooney Horvath

And they never did anything.

Dr. Keith Plummer

Yeah. You give that illustration of the teenage girl who had AI create a poem that she posted, and when it didn't get a lot of likes, she said, I guess I'm not so good a poet. That was unbelievable.

Dr. Jared Cooney Horvath

Like you didn't even do. But you see, they're starting to. We're starting to redefine. What does it mean to be a poet? It means typing a prompt into AI. Right. We're starting to redefine even our most basic terms. I was going back to the university setting. I told that story about the psychologist at uni who had a kid who used AI to write his college entrance exam, used AI basically to pass high school, used AI to write emails to all of his friends in college. And this kid was there because the kid basically didn't exist. The kid was sad. The kid had no, he didn't know what he wanted to do. And that was her. She didn't say that to him, but that was her response to me. She said, he wasn't there. There was no one there. And that was the problem, is he never. This whole AI world just basically gave him things. And he never quite stopped and figured out, what do I believe? Who am I? Where do I fit in this? And so that's my biggest fear, is that this whole tool, it's not just going to harm learning, it's going to redefine what we mean by learning an identity and being a human into such a lesser definition of it.

Dr. Jared Cooney Horvath

And our next generation just won't even notice that they're missing anything. They'll think this is what it is and what it's always been. It just isn't.

Dr. Keith Plummer

Yes, well, as we draw to a close here, one of the things that I wanted to ask you is this. And you have chapters that are addressing parents and schools and teachers and so forth. What is one of your greatest hopes that your book will help parents with? And the flip side, for those who are in education, what would you hope that a teacher or an administrator would gain from your book?

Dr. Jared Cooney Horvath

So I'd hope from the parent angle that this is kind of an eye-opening experience because I just fear, I work in education, so this is day in, day out for me. But I fear most parents just don't know what's going on with tech in schools and how often kids are using it and just how poorly it's performing for them because all they get is the brochure that says, hey, we got VR goggles. And they say, that sounds cool. And so I want to arm them with the knowledge to say, well, wait a second, this, this might not. Maybe the problems I'm seeing with my kid at home aren't because he has a cell phone. And to be fair, they are probably that as well, but maybe they're going a little bit deeper. And all that work I'm putting into at home to try and maybe take the screen away a little bit more, connect more with my kid, maybe that's being undone at school in a way that doesn't need to be happening in a way that's not just harming their development, but they're learning too. So I want to kind of open their eyes to the issues.

Dr. Jared Cooney Horvath

And then from a teacher and administrator point of view, I always say, like, the number one thing I hear from people who read this book is, thank you. Like, I knew this was going on, but I was never able to put, I didn't have the data for it. I wasn't able to give you the mechanisms. I knew it. But the best I could do was go to my principal and say, I think we're learning less. And for them, if they now have the tools they need, to prove the case that they've been talking about for decades. Then I think I, I'm, I've, I've done my job to give them the voice to say, look, it wasn't just me thinking kids were worse. They genuinely are. And it's because of the way we've been doing things from now on. So hopefully they can push back from there. The biggest, the biggest problem is always going to be what the highest up. I think the teachers are going to be good, I think the parents are going to be good. I think the kids are going to be good. It's going to be the high, the superintendents, the, the, the deans, the people who haven't stepped foot in a classroom in 10 years and who are just told from outsiders tech is good and they go, okay, makes.

Dr. Jared Cooney Horvath

And there's where university, that's where school is basically a business from their point of view. They just need to do whatever gets tuition in. And I think they're going to be the hardest ones to kind of sway that. Yes, your concerns are important. We do need tuition, but man, we also got to learn something. Otherwise what are we doing here?

Dr. Keith Plummer

One of my favorite quotations is by Upton Sinclair and he said "It's difficult to convince a man of something whose salary depends upon him not being convinced."

Dr. Jared Cooney Horvath

Isn't that the truth? That's. Can I give you. I, I was, I'm doing it working on a documentary right now on genius. And one of the misconceptions about genius was you kind of lose creativity as you get older, as you be, get, get better at something. You lose creativity. And a guy was doing a bunch of research, he said it's not true at all. You lose creativity when you develop a vested interest. When it becomes more profitable for you to maintain your position than to change your position. You just stick and then you're done. And that's where I fear a lot of those higher ups is. It's going to cost them too much to change their mind now. So they might just dig their heels in and so might be a grassroots movement more than anything else.

Dr. Keith Plummer

Well, if people want to learn more about some of your work, in addition to the book, where might they look?

Dr. Jared Cooney Horvath

So I have a website called LME Global. So that's learningmadeeasyglobal.net and that's where I post a lot of my writing and videos. So I also have videos if you go to YouTube. Jared Cooney Horvath at you on YouTube. I do every couple weeks a new learning video like here's a bit of research. What does that mean for us when it comes to learning and teaching? So if you just kind of like this learning stuff, tons of stuff floating out there, look me up. I'm around. Otherwise, as you know now, Keith, I'm easy to get ahold of too. So if you got any questions or anything, you can find me, I'm pretty simple.

Dr. Keith Plummer

Great. Well, I wanted to close with how you closed the book, because you begin talking about the Luddites and you end the book and you say that the book was never about rejecting technology, and you write, "it was about reorienting toward deep thought and true understanding. It wasn't about scrapping devices. It was about reclaiming rigor. I am not anti tech. I am pro learning. I am a Luddite." And you ask your readers to join you, and count me in.

Dr. Jared Cooney Horvath

You're a Luddite with me. We should make cards. I love it.

Dr. Keith Plummer

I'm a Luddite with you. The book is The Digital Delusion, How Classroom Technology Harms Our Kids Learning and How to Help Them Thrive Again. And that is by Dr. Jared Horvath. Jared, thanks so much for your time. This has been what I was looking forward to. I'm not disappointed. Thank you for the work that you're doing in this area. Please keep it up.

Dr. Jared Cooney Horvath

Thank you. And keep up the good work you're doing too.

Ben Best, co-host

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