

Is Learning on Zoom the Same as In Person? Not to Your Brain

By Stephen Noonoo ([Edsurge Podcast – 09.21.2020. This article is part of the guide](#))

At this point, the Zoom call has almost come to define learning and working in the age of COVID-19. But a few months ago, people began realizing that all these video calls were making them tired—exhausted even—more so than a day of in-person class or all-day meetings. The phenomena even has a name: Zoom fatigue. And it's backed by some pretty interesting brain science.

According to scientists, the cause of Zoom fatigue “is that technology can disrupt our normal intricate human communication methods that have been finely tuned over centuries to help humans survive,” writes Brenda Wiederhold in a thought-provoking editorial in the journal *Cyberpsychology, Behavior and Social Networking*. As it turns out, live Zoom calls aren't as live as we think they are.

Wiederhold is a licensed clinical psychologist who uses advanced technology, such as virtual reality, to treat patients who experience trauma or stress and also runs the nonprofit Interactive Media Institute. She joins us on the EdSurge podcast this week to discuss how we can combat Zoom fatigue, and she offers a glimpse into her work in virtual reality, weighing in on whether it may one day replace communication as we know it.

Below are lightly edited highlights from the conversation.

EdSurge: Can you briefly explain what Zoom fatigue is and why it's a thing?

Wiederhold: Sure. So it's when you feel tired, anxious or worried after you overuse video conferencing. Part of the reason is there's a slight lag. No matter how good your internet is, no matter how fast it is, it seems we have this millisecond—maybe a few milliseconds—delay. So the communication isn't in real time, even though it seems like it is. Our brains subconsciously pick up on the fact that things aren't quite right. And the fact that things are out of sync and we're accustomed to them being in sync when it's face-to-face communication, our brains try to look for ways to overcome that lack of synchrony. After a few calls a day, it starts to become exhausting.

I hear the term synchronous learning in education a lot to refer to Zoom calls where the teacher is on with a class of students and they're learning live. But synchronous might not be so synchronous after all?

EdSurge: Can you briefly explain what Zoom fatigue is and why it's a thing?

That's correct. So face to face, we have synchronous communication. We also have other things that help us feel good when we're face to face in conversations. We have releases of dopamine. We have the hormone oxytocin being secreted. Those are feel-good hormones. Then we have all the body language and the cues. You see a person just barely move their eyes, do a micro-expression, things like that. We can pick this up very easily in person, but we don't always pick up those little nuances when we're on a Zoom call. And if we do pick them up, they're out of sync. You see a person smiling after they smiled.

There is also an element of multitasking as we're constantly looking around the screen, searching people's faces.

When clients that tell me they're getting Zoom fatigue, I tell them first and foremost don't multitask. If you're on a call, be on a call—don't be looking at your phone, don't be looking at your email. Also, if, if you're on a work call and somebody asks you a question and you haven't been paying attention, it becomes a little bit embarrassing. The chat function can be distracting to some people, but it can also be a nice place to send document links.

I also tell people to maybe turn off their big [monitors]. I found this worked for me too. I was doing a lot of calls and some people, when they're larger than life and looking right at you, it's just an automatic response to go, 'Oh my God. There's this giant floating head on my screen.' If I leave my laptop on, then it doesn't seem as disconcerting to have the person on your screen. They're not as close as they are on a 50-inch screen.

From what I remember, you wrote it triggers this part of our brain that almost sees it as a threat to have a giant head in front of us.

Correct. It's what we call the fight-or-flight response. Again, this is subconscious. When we have prolonged eye contact with that large appearance, our bodies get flooded with cortisol, the stress hormone. And we automatically think there's danger, even though consciously, rationally we know there's no danger. But just for that split second, our bodies rev up, and they're going to either fight or flight.

So we could be getting cortisol rushes in the middle of Zoom meetings? That seems wild to me.

It's very wild. I have regular Zoom meetings with colleagues, and we all agreed after the first few weeks that we didn't want to fix our hair and the guys have to put on a tie and the women have to put on a little makeup to do this. We agreed not to have our cameras on anymore. And it was pretty amazing. Just that little thing. We started reporting to each other that we weren't as tired after the Zooms.

There were some simple fixes that you wrote about, including just bringing your camera up to eye level. Can you explain how that works?

Sure. So newscasters have done this naturally for a long time, but really it's probably not natural for them in the beginning. It's what we call learned behavior. Like anything else, you create a behavior or a habit by doing it over and over. So when you do a Zoom call, you're automatically drawn to those smiling faces, but you need to really be looking at your camera. And so if you put your computer where your camera is right at eye level, you're going to be more prone to look right at that camera and to the other person. It seems like you're looking at them. And so that's going to bring in a little bit more of that social connection.

That could be really big for teachers who need to hold their students' attention and create an authority presence.

Exactly. And there's other things, like when you're doing a call with your camera on, you want to really have your neck, shoulders and head all in the frame. You don't want to be seated too low. So you want to kind of frame just the upper part of you in that frame. Teachers may need to move their seats higher or adjust their computer. They will want to look at lighting, make sure that you're not in a dark room. You don't want the lighting coming from behind you. You'd rather have it in front of you. You want to speak louder than you normally would. So that kind of tends to make people think you have more self confidence or authority, and you're projecting better. Plus it makes you better understood and more audible.

When you talked about learned behaviors before, does that mean that this is something that will appear strange or unnatural to educators? Is this something that they need to practice?

With time, most of these things will become easier. It's just like public speaking. I have a lot of patients that have a fear of public speaking, even on a Zoom call. It's not so easy to speak if there's five, 10, 20 people on the call, but it becomes easier over time as you practice. One of the skills I teach all of my patients that come in, whether it's a 5-year old child

with autism or whether it's an elite performer, is how to do diaphragmatic breathing. So teaching them just to slow down their physiology, by doing that nice, slow, controlled breathing, and then having that carry over and make them appear calmer. Once their brains start feeling calmer and their body's following, or their bodies feel calmer and their brains follow, they exude that calm to the rest of the people on the call. So teachers can learn that and start to feel more comfortable.

For the full conversation, listen to the audio version on the EdSurge Podcast.

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