The Use of "Attention Capture" Technologies in Our Classrooms Has Created a Crisis

By now, most of us know that the technologies we rely upon most heavily do not have our best interests at heart. The majority of the apps we use, websites we visit, and devices we carry in our pockets use sophisticated techniques and addictive design principles to coax us into exchanging our own interests for those assigned to us by their inventors. Often these take only one form, as they want only one thing from us: endless, complete, dissociative absorption in the app or device.

While the extent to which these technologies have penetrated social and political life is common knowledge, their proliferation throughout public education—within classrooms, that is, as literal tools for instruction—is not as commonly understood. Yet we have been unleashing addictive tech at full-blast intensity in our classrooms as a means of educating our children for over a decade.

The technologies in question hail from the "attention economy"—a quaint designation for a multitrillion-dollar sector of the global economy devoted to the industrial-scale capture, extraction, and monetization of human attention. Here, firms like Google, Meta, and Amazon leverage unimaginably vast quantities of personal and behavioral data to continually refine and individualize efforts to harvest attention. Whereas Big Tech ultimately pursues our attention for the sake of profit (in Google's ad sales model, for example, attention is automatically auctioned off in real time to prospective advertisers), "attention capture" classrooms apply the tools and methods of the attention economy to improving student learning outcomes and managing in-class behaviors.

The most audacious vision of the "attention capture" classroom is an issue brief composed by the US Department of Education in 2012. Titled "Enhancing Teaching and Learning Through Educational Data Mining and Learning Analytics," this official document announces in its first paragraph the surprising North Star by means of which public education should sail into the 21st century: the Netflix personalized recommendation system. Like Netflix, schools are urged to create profiles of student-users through large-scale data gathering (or to allow software developers to do this on their behalf). These profiles will be generated through student interaction with adaptive, personalized learning systems, which will also provide personalized recommendations for "learning content." To sustain or increase student engagement with this content—and solve the perennial classroom problem of distraction—these systems will employ a battery of attention-capturing techniques pioneered by platforms like Netflix, Amazon, and Facebook. Data generated through engagement will be used to constantly enrich user profiles, which in turn will serve as the bases for increasingly fine-grained predictions about an ever-broadening range of student behaviors and outcomes (e.g., "Should a student be referred to a counselor for help?").

This vision from a decade ago has been realized in the past 12 years to different degrees, in different forms, in classrooms throughout America. Companies like Summit Learning—funded by Mark Zuckerberg—have introduced device-driven personalized instruction as a prominent feature within some of our poorest school communities. Parents and educators have protested against the perceived zombification of classrooms, as living relationships between students and teachers are replaced by the silent hum of laptops, quiet guitar music, and teachers turned "instructional coaches" who offer "motivational support" at the front of the room while they surveil student devices via spyware like GoGuardian.

The overall effect of these initiatives has been to transform the classroom into a bleak microcosm of the nation's more generalized attention crisis. By many measures, our powers of attention appear to be rapidly deteriorating. The average attention span of the individual has seemingly contracted almost 70 percent in the last 20 years, for instance, and our collective attention span is reported to be shrinking as well. Overwhelmingly, people report that their capacity for sustained focus is declining, along with their ability to engage in deep thought. There is growing evidence that many of the methods devised to continually reengage an already depleted attention, or to seize a developing capacity for focus, pose special dangers to children: A recent spate of publications, for instance, highlight evidence linking "chronic sensory overstimulation (i.e., excessive screen time)" during brain development to cognitive impairment and substantially increased risks of early-onset dementia in adulthood.

The use of attention-fracking technology—tech that pumps pressurized "content" into eyeballs in order to harvest a steady stream of passive absorption—in K-12 education has likely added immeasurably to the national crisis of attention. However, the intrusion of the attention economy into classrooms is largely a fait accompli. Even technologists recognize the damage done to students' abilities to pay attention.

The real question today is what we are going to *do about* the attention crisis in our classroom. This question is urgent, because those largely responsible for the crisis—profit-driven technologists—have already started offering up new, even more invasive solutions. These most often take the form of brain-based technologies: devices that can either actively read brain activity in order to monitor the neural "patterns" of attention, or which directly intervene in the brain's activity in order to modify or enhance attention. One example is MIT Media Lab's AttentivU glasses, which use EEG sensors and eye-tracking tech to assess the wearer's

attentional state; if the glasses determine that their user is distracted, they will transmit the noise of chirping birds directly to the user's brain, to remind them to "pay attention" (users can also elect to wear a pin, which will administer a teensy bit of "haptic feedback" as well). Another is BrainCo's headband, which has been tested in classrooms, and purports to send "real-time brainwave data to a teacher's dashboard to indicate [a student's] levels of attention and engagement."

A future of ghostly bird noises, self-administered shocks and brain-reports on our children's attention activity is not our only possible future. We have a real alternative: We can allow educators to prioritize the teaching of attention in classrooms and make *attention formation* an explicit part of school curricula.

There are many ways we could incorporate attention more fully into our classrooms. The first concerns "voluntary attention," and involves a return to a set of historical practices. By voluntary attention, I don't mean our common understanding of sustained focus, where one labors *without actual distraction* to lock the mind, by sheer willpower, onto a single object for an indefinite amount of time. Rather, I am thinking of the definition offered by the pioneering French psychologist Théodule-Armand Ribot (1839–1916), who defined voluntary attention as a learned ability, one that enabled a person "to render attractive, by artifice, what is not so by nature; to give an artificial interest to things that have no natural interest." Ribot believed that, through deliberate training, people could learn to bring an otherwise passive faculty of attention under largely conscious and active control. In the late 19th century, a battery of pedagogues and educational psychologists put this belief into practice, composing manuals filled with exercises training students in making the appropriate "efforts to bring passive attention under active control." While some of these exercises are strange and beguiling, others are surprisingly fruitful,

and there is much work to be done in experimenting with them in our own era of industrial attention harvesting (especially those exercises which detail methods for gradually acquiring abilities to handle increasingly audacious and disruptive distractions).

Recently, however, much work has also been done with that other form of "sustained attention," which the psychologists of the 19th century thought impossible for the human mind to achieve: uninterrupted, pure, distractionless focus on a chosen object, person, or idea. Drawing both on traditional meditative practices and cognitive behavioral treatments for ADHD, a broad set of approaches have been developed under the rubric of "contemplative pedagogies"—some of which have even been stress-tested in psychology laboratories, with promising results. Beginning with simple mindfulness exercises, students are brought to directly engage with the limitations of their own attention span, from which point they are taught to expand those limits as they are guided in the acquisition of greater self-possession and resilience.

These are just two of many ways of tackling the idea. As I said, much work needs to be done. What we know, for sure, is that it *needs to be done*. We cannot keep relying on technology to do the work that only voluntary human attention can do.

There is a profound danger associated with using extrinsic, technological means to induce attention-like "behaviors" in students. Any effective attempt to circumvent the free exercise of student attention also entails a proportionate diminishment in student agency. The formation of attention *is* the formation of agency. To the extent that we take shortcuts, and get attention-like outcomes in our classrooms by *non-attentional* means—to this same extent we fail to form our students' capacity for self-determination. Every time we use an attention-capture tool, instead of teaching student how to actually direct and control their attention, we habituate them further to unfreedom.

Jac Mullen, "Attention Capture," *The Nation* (April 22, 2024)

We find ourselves in this situation because we tried to get the *effect* of attention—sustained absorption—by a means other than the free, voluntary, consensual attention of the individual. Overwhelmingly, we tried to capture attention and hold it—rather than cultivate attention in others and empower them to freely give it. We need to give our own attention to the attention crisis, and help form in children the capacity to do the same. We need to make attention formation an explicit focus in the classroom—and in the curriculum.