Educational futures after COVID-19: Big tech and pandemic profiteering versus education for democracy

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Abstract
To address the dramatic economic contraction brought on by the global pandemic, governments at all levels have taken on tremendous debt in order to provide economic stability and prevent a more dramatic collapse. It is likely that, as the initial phase of the pandemic passes, familiar neoliberal austerity claims about the necessity to trim education budgets will gain greater force and acceptance. However, I suggest that these neoliberal policies demand sacrifices of the wrong constituency: Given that Big Tech has amassed huge sums of money over the course of the pandemic, how is it morally justifiable that tech companies benefit from the pandemic while educational institutions shoulder the financial fallout of pandemic government spending? In this paper, I first outline how Big Tech profits from the education sector during the pandemic even as it undermines the democratic function of education in doing so. I then situate these more specific critiques within a broader consideration of the role technology plays in undermining a democratic society. In conclusion, I argue that a pandemic profiteering tax for Big Tech represents the best short-term solution to get ahead of the “austerity curve” and ensure that the COVID-19 crisis serves as an opportunity to deepen our commitments to promoting the democratic function education. Without such commitments, the pandemic will become the turning point at which Big Tech effectively coopts public education for its own ends, to the detriment of democracy. My underlying claim is that technology is in conflict with both democracy and education. This runs against the widespread notion that technology will help promote learning, and that technology helps inform and connect people and therefore helps promote democracy. In what follows I dispel such notions.

Keywords
austerity, democratic education, educational technology, big tech, democracy and education, education futures

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COVID-19 has been a time of crisis, and crises present opportunities to reflect on principles, consider alternatives, and map a way forward. This is true in education as in any other sector of society. As educational theorist Tesar (2020, 2021) notes in his discussion of the concept of educational futures,

Educational futures have perhaps never been more debated than during the COVID-19 pandemic… The future will occur – we just need to wait for it – and it is important to consider how it could be imagined, how it could be thought about and how it could be considered in order to alter or change the present … The foresight is for education to think about the future before the disruption starts, to be proactive rather than reactive” (p. 2).

Education is a fundamentally future-oriented endeavor, demonstrating how a civilization values the future in its commitment to education.

This essay is intended to contribute to growing discussions about what education might look like as we emerge from the global pandemic (Mehta, 2020; UNESCO, 2020; UNESCO, 2021; World Bank, 2021) by drawing attention to the unjustifiable gap between large profits won by Big Tech and the steep budget shortfalls facing public institutions and especially education. More specifically, I argue that education has a democratic function that will need even greater support in a post-COVID-19 future in anticipation of austerity measures in education. I suggest that the rise of Big Tech and its threat to education presents significant existential threats to democracy. My underlying claim is that technology is in conflict with both democracy and education, which runs against the widespread notion that technology is simply a tool that will help promote learning. In what follows, I dispel such notions. To do so, I outline several critiques of technology and identify several problematic ways it adversely affects education in particular, what some theorists call technologization of education, with the aim of building a political and educational argument behind the necessity to restrain Big Tech in order to promote the democratic function of education.

I begin by (1) discussing the economic crisis resulting from COVID-19, contrasting the phenomenal profits made by Big Tech against the large debt facing educational institutions as governments contend with financial obligations taken on during the pandemic. I then (2) present several important critiques of technology in general, with special consideration for its problematic educational implications. I argue that one of the reasons Big Tech has profited so much during the pandemic is because they have been able to infiltrate education in unprecedented ways due to (a) the compulsory usage of tech in the classroom, (b) the exploitation of student data, and (c) unjustifiably low taxation rates. I then (3) argue that tech is not a neutral tool or instrument outside of us that one can choose to use or not, but rather it is something that shapes and transforms us. Last, I (4) argue that the huge profits amassed by Big Tech are doubly problematic in light of these critiques, which leads to a recommendation: in addition to more stringent corporate regulations and other long-term policy goals, I advocate for the imposition of a “pandemic profiteering tax.”

Although Big Tech has profited across all sectors and the funds generated from a profiteering tax ought to be broadly distributed, I emphasize the extent to which Big Tech and the education sector are closely entwined, creating a particularly strong moral imperative to insist that Big Tech address the funding shortfalls that will undoubtedly affect educational institutions post-pandemic. More specifically, I argue that the promotion of the democratic function of education is even more imperative as we emerge from COVID-19 and this is an important reason why Big Tech profits must be directed to education. In sum, this article also provides a strong democratic justification for taxing tech and funding education specifically because of the close relationship that exists between them.
COVID costs and pandemic profits

The pandemic has been catastrophic in countless ways, most devastatingly in its cost in human lives. By the end of 2021 the virus infected over 250 million people, killing over five million worldwide, though many argue that this significantly under reports deaths, which may be three times higher (Buchholz, 2021; https://www.economist.com/graphic-detail/coronavirus-excess-deaths-tracker). Even in a developed country such as the US, “up to 35% of COVID-19 deaths are not reported” (Angulo et al., 2021). This excludes other deaths or illnesses due to delays in hospital procedures and restricted access to preventative care necessary to prevent greater COVID-19 spread.

The global economy has also been devastated. The US economy shrank 3.5% in 2020 after growing 4% the year previous, the worst year since WWII, leading President Biden to sign a US$1.2 trillion dollar relief package in November 2021 (Tankersly, 2021). Economy recovery for much of 2021 was primarily limited to the stock market.

To address this dramatic economic contraction, governments at all levels have taken on tremendous debts to provide economic stability and to prevent a more dramatic collapse. The US Congressional Budget Office (n.d.) reports that in 2020 the US federal budget deficit was US$3.3 trillion, by far the largest in its history; for 2021 it is anticipated to be US$3 trillion (Associated Press, 2011). These numbers clearly tell us that the financial impact of the COVID-19 pandemic will last for a very long.

And yet there have also been some real winners in the COVID economy: Although governments have taken on significant debt, Big Tech has made billions. Consider the four biggest tech companies—Amazon, Apple, Google, and Facebook—that earned US$38 billion in profits in the second quarter of 2020 alone. In the first year of the pandemic the seven most-valuable U.S. tech firms have added US$3.4 trillion in market capitalization (Levy, 2020). The New York Times notes that “America’s technology superpowers are not making bonkers dollars in spite of the deadly coronavirus and its ripple effects through the global economy. They have grown even stronger because of the pandemic.” Amazon alone has doubled its stock value during the pandemic to US$1.8 Trillion (Ovide, 2021). Google CEO Eric Schmidt claims we should be “grateful” for the tools that have allowed us to navigate a global pandemic (Schliefer, 2020). Although Big Tech may have saved lives by allowing us to work and learn from home, many government policies along with anti-mask rhetoric spread by those same “platforms” likely cost more lives than Big Tech saved. But clearly Big Tech certainly did make more money than almost any industry.

Individual wealth has grown just as precipitously for the lucky few, most of whom have earned their money in the tech sector. The collective worth of the world’s 2,800 or so billionaires has risen by over US$1 trillion to US$10.2 trillion (Neate, 2020a). Ten individuals have reaped some US$400 billion, while Amazon’s Jeff Bezos grew his wealth by US$70 billion in just the first 6 months of the crisis; the soon-to-retire CEO is now worth some US$182 billion (Neate, 2020b), while Elon Musk’s wealth rose to over US$300 Billion in fall 2021 (Haverstock, 2021). “US Billionaire wealth surged by 70%, or US$2.1 Trillion, during the pandemic; they are now worth a combined US$5 Trillion.” (Collins, 2021). The increased wealth of the world’s top-10 billionaires would be enough to provide vaccinations for the entire planet (“Wealth Increase of 10 Men,” 2021), prompting Oxfam to advocate a special tax on the superrich (Oxfam International, 2021). The old adage that “We’re all in the same boat” does not apply to all income brackets. The shocking numbers above, and many others like them, raise urgent questions about the obscene profit rates of Big Tech and economic inequality (VandelHei, 2019).

The juxtaposition of the education sector with the tech sector yields a sharp contrast. Educators, who are not always able to work remotely, already bear a significant COVID-19 burden in terms of
death and the threat of death, to say nothing of mental-health stress (Collier and Burke, 2021). Those still teaching in the classroom face an overwhelming danger—many have been updating their wills (Waldrop, 2020)—all while teaching and managing students, some of whom struggle to follow health-safety protocols. Those teachers working remotely faced steep learning curves and had to adopt new pedagogical models overnight (Collier and Burke, 2021; Jandrić et al., 2020, 2021a, 2021b; Orchard, 2020). Whether in the classroom or on a screen, these educators have been forced to use technologies in circumstances they never imagined or wanted. (Teräs et al., 2020) In light of these burdens, it is hard to justify asking educators to accept smaller budgets post-pandemic, especially since small cuts will have enormous impact on education and little effect on Big Tech.

The problematic consequences of COVID-19 will be compounded if one of its most-lasting cultural impacts is an expansion of the power and wealth held by Big Tech alongside a financial catastrophe for education. This is not some distant hypothesis; consequences are increasingly evident. The Chronicle of Higher Education reports that some 6,50,000 jobs have been cut by Higher Education institutions, a 13% drop over the year previous, noting that, “At no point since the Labor Department began keeping industry tallies, in the late 1950s, have colleges and universities ever shed so many employees at such an incredible rate” (Bauman, 2021). In Canada, for the first time in the country’s history, a university (Laurentian University, in Sudbury) was forced to apply for creditor protection, citing “unprecedented financial challenges” (Rushowy, 2021, para. 9). Hundreds of tenured professors were laid off and thousands of students were forced to relocate to new universities. The already cash-strapped provincial government did not make any effort to step in and help the school meet its financial obligations, something it probably would have in a more stable economic context.

In addition to financial challenges for higher education, and related to my assertion about the anti-democratic impacts of Big Tech and the pandemic, the United States is also seeing evidence of forced changes to university governance due to COVID-19: The American Association of University Professors released a report on the ways in which faculty governance had often been cast aside, in a form of what Agamben called a “State of Exception” (2005). COVID-19 is being used to justify “unilateral decisions by governing boards or administrations to set aside an institution’s regulations” (Bérubé and DeCesare, 2021). According to the American Association of University Professors (n.d., para. 3):

Some institutional leaders seem to have taken the COVID-19 crisis as an opportunity to turbocharge the corporate model that has been spreading in higher education over the past few decades, allowing them to close programs and lay off faculty members as expeditiously as if colleges and universities were businesses whose CEOs suddenly decided to stop making widgets or shut down the steelworks.

This results in a transfer of educational decision making from the democratic and accountable processes of faculty governance models to undemocratic institutions governed by neoliberal imperatives of profit and efficiency (Brown, 2019) with little or no educational mandate. The kinds of decision-making that govern the education sector mimic the business models of the Big Tech sector in ways that undermine the educational enterprise. (Teräs et al., 2020). However, these are tech companies not educational institutions, and they are primarily accountable to profit-demanding shareholders and stock markets rather than parents, students, or the public.

Education is an essential sector but is often among the first places for cuts in times of financial crisis. In this particular financial crisis, the insidious influence of Big Tech threatens not only educational institutions but the democratic principles of society. Robust financial support for an education sector is crisis is certainly needed; but to navigate the impacts of COVID-19 on our
society we also require a more robust strategy for contending with Big Tech alongside the legislative changes that will make that possible.

**Connecting the dot-coms: assessing the impact of Big Tech**

The cost of Big Tech extends beyond the extent to which its bottom line has grown at the expense of almost all other sectors of the economy. Even a cursory glance beyond the numbers points to many connected problems, for example, the growing political clout of corporations over the political process (Hindman, 2018), the spread of misinformation (Kreps, 2020), and the environmental consequences of Big Tech.1

Given these concerns a growing movement has called for the dismantlement of Big Tech monopolies through the application of antitrust laws, particularly in the United States (Kolhatkar, 2019). But as experts like Harvard’s Shoshana Zuboff (2021) point out, anti-trust legislation, even forcefully applied, will not fully address our problems, especially in the short term. This is especially true in our schools where the problems range from small—lack of money for classroom supplies—to vast—the erosion of democratic values. It is important to expand our toolbox of solutions beyond the legislative to protect and promote the democratic function of education.

For example, there is a growing sentiment that Big Tech should reimburse news organizations for the content on which many profits are made. In Canada and Australia, such legislation has already been tabled (Wyld, 2020). This follows other tabled legislation to regulate U.S. streaming services such as Netflix and Disney+ to support the creation of Canadian content (Wong, 2020). Lina Khan, the newly appointed chair of the American Federal Trade Commission, is a well-known advocate for stronger regulation of Big Tech (McCabe and Kang, 2021). These are positive developments for culture, media, and politics. However, there is as yet inadequate political pressure to force Big Tech to contribute to one of the sectors where it profits the most: education. Although the ways in which Big Tech profits from its role in education are not as overt as they are in news media, I will show that they are equally if not more harmful to our democratic society.

However, there is considerable celebration of the promise technology offers education, there is growing evidence that the benefits are generally overstated. Hamilton and Friesen (2013) state that “it is often the case that new technologies have yielded no significant difference from traditional practices in terms of the enhancement of pedagogical aims, regardless of the underlying pedagogy.” Alarm about “broken education” long raised by those concerned about the influence of conservative policies on rising inequality and inequities has now been co-opted by the corporate sector and promoted by those same tech companies that present themselves as the “solution.” Teras et al. note that Ed Tech continually presents itself as the best solution for any problems in the education sector: “In the Covid-19 pandemic, the hypothesis of “broken education” offers an opportunity to ed-tech businesses to sell untested solutions which sometimes have little to do with proper teaching and learning philosophies.” (Teräs et al., 2020).

There are three central themes to my next points regarding the role of technology in education: (1) lack of consent, as schools and students are a captive audience with little choice during the pandemic; (2) harvesting data (with dubiously obtained consent) for profit, earned from selling access to digital platforms and exploiting user data for market research; (3) monopoly on student attention. These three themes are entangled and mutually reinforcing, bringing into greater relief the problematic character of Big Tech profits, strengthening my argument that these profits should be redirected to promote the democratic function of education. Ironically, while teachers are required to earn certifications and undergo police checks Big Tech is subject to far less scrutiny and regulation.
Consent

One of the most compelling reasons to require Big Tech to provide financial support to the education system is that the education system has been Big Tech’s captive audience throughout the pandemic. Those working remotely, and especially families with children in virtual classrooms, have been required to participate in a digital world not of their making or choice. Big Tech has captured the entire public educational system and its children as state-mandated participation has entailed state-mandated use of specific technologies: Compliance is required to participate, and there is little time for extended deliberation or analysis (Couldry and Yu, 2018). Teräs et al. (2020) note that “Data collection is increasingly built in the educational process as a basic requirement, leaving no room to question whether or not data should be collected at all” (p. 867). Although this is most prominent and problematic in K-12 contexts, degree completion in higher educational contexts also requires compliance. In this way, an educational institution that attempts to maintain connections with its distanced students is helping facilitate Silicon Valley’s billions in the short term, while in the long term it is helping Silicon Valley harvest something even more valuable, something that will continue to generate wealth well beyond the pandemic.

Data

Even before COVID-19, data had been dubbed the new oil by the likes of The Economist (Economist, 2017). It is this resource that lines pockets while educators struggle to contend with the effects of Big Tech I outline in this paper. We have consented to indispensable digital technologies in exchange for our information. However, while user agreements embed the language of consent, choice remains an illusion. Although individual consumers outside of schools are responsible for their own technology choices, even if they rarely read the fine print, what is categorically different in this new educational context is that students cannot choose. Decisions about technology are made at the level of the school board or institution of higher education, with little or no consultation of those who will be forced to adopt these technologies.

Attention

Perhaps the most precious educational commodity is human attention: the capacity for students and teachers to focus on a task in a sustained and uninterrupted manner (Lewin, 2016). Second only to data, this is the most-prized commodity for Big Tech and the “Attention Merchants” (Wu, 2016). But the ability to focus is being rapidly eroded and its absence exploited, as any parent or teacher can attest. More than ever, we rely on devices that are designed to grab our attention even as they undermine it (Crawford, 2016). These are devices that have been deliberately engineered to create addiction, and tech companies have often abdicated responsibility for the inevitable and unhealthy dependency they create, allowing Big Tech to directly profit from students’ cognitive processes while at the same time undermining those same processes.

Long before the pandemic, groups like the Campaign for a Commercial-Free Childhood (CCFC, n.d.a) were advocating for “screen-free weeks” (CCFC, n.d.b) in recognition of the dangers of addictive devices. As widely reported, many top software developers and CEOs actively limit their own children’s access to smartphones and tablets (Akhtar and Ward, 2020). These are insiders who know all too well the psychological research that goes into making their products irresistible and seek to protect their own children even as they minimize their problematic impact. Advocacy groups such as the CCFC also raise questions about the harvesting of student data by Alphabet (Google’s
Google’s manipulation of metadata, in particular, is extraordinarily alarming. Google “collects data on the search terms children use, how they move their cursors across or interact with pages, the devices they use, their locations, and who their classmates and teachers are. What is more, Google uses the information they collect to both develop its services and ‘provide aggregated reports to advertisers’” (Okihiro, 2020). Educational scholars term this educational data mining, which is focused on automated discovery of predictive patterns. (Baker and Siemens, 2014) The unique way that google designed Google Classroom determine how learning happens (Perrotta, et al., 2021) to Google’s own benefit. In light of these concerns, the recent wave of popular headlines downplaying the dangers of screen time (see, for example, McGinn, 2021) is difficult to accept at face value.

According to Alexa, perhaps the most reliable commentator on Google, Google is the most visited website in the world (Alexa, 2021). Although Google is often thought of as a search engine it can be better thought of as an advertising company, as ad revenues represent the majority of its profits (Vaidhyanathan, 2011). In other words, even those who critique Google because of its staggering advertising revenues often overlook Google’s role in education because there are no ads. However, children certainly are exposed to a tremendous number of ads on Google-owned Youtube, with often very little educational value (Bergen, 2020). Google is preparing these children to become consumers of ad content down the road by harvesting their data now. Despite its size and influence, Google only recently began to face criticism in the literature on educational technology (Krutka et al. 2021). There are many ways in which Google ignores its own terms of service, misleads school districts, and confuses users by, for example, stating that users own their data while Google merely collects users’ “information.” However, Lindh and Nolin (2016) note that it is often the case that, once users realize they have unwittingly relinquished control of their data, it is too late to shut down reliance on Google services. The growing field of “technoethical” scholarship encourages educators to ask whether a given technology ethical is ethical despite the mirage that Google creates when it positions itself “as a free public service, divorced from marketplace contexts and concerns” (Lindh and Nolin, 2016, p: 650). Although Google construes its work in the sphere of education as benign and benevolent pedagogical aid, Krutka et al. (2021) note that,

Google’s incursion into education threatens and devalues traditional roles of teachers and librarians as sources of wisdom and experts in pedagogy...[Google] emphasizes an education where digital consumption, productivity, and surveillance may be prioritized over human dispositions such as curiosity, uncertainty, and privacy...stifling both public and private alternatives (p. 7).

In short, while Google often skirts public criticism about its educational activities, this is arguably where the company does its greatest damage.

Big Tech is not only centrally implicated in debates about the purposes of education but increasingly the arbiter of those same educational aims and values. As Singer (2017) argues, “…Google, and the tech economy, [are] at the center of one of the great debates that has raged in American education for more than a century: whether the purpose of public schools is to turn out knowledgeable citizens or skilled workers.” My argument, however, extends even further: I contend that educational technology is more accurately called “predatory technology” in the sense that it aims to dominate, displace, and ultimately replace education.
“No Mere Means”

My critiques run against notions prevalent among sociologists of technology that suggests that because humans design technology we can ensure that we determine exactly what kind of impact it will have. (Feenberg, 2002; MacKenzie and Wajcman, 1999). However this view not minimizes the growing influence of technology but also overlooks the inherent features of technology which I outline below.

I have discussed Big Tech, their profits, and their insidious influence on education. I now turn to a broader question about the status of technology not only as the tool of choice for powerful tech companies but as a powerful mediator of human existence and experience. The field of philosophy of technology offers helpful theoretical resources as educators and educational theorists contend with the adoption of technology in education (An and Oliver, 2021). Philosophy of technology explores the ways in which technology is not something outside of us, but rather something that is inseparable from who and what we are, with the capacity to shape human values and create the very context in which decisions are made about that same technology. It plays a powerful role in the formation of our subjectivity and the social context in which education happens. This gives even greater weight to the imperative to take an informed and critical view of technology and to take the necessary steps to protect our educational institutions from its negative impacts.

For German philosopher Martin Heidegger, technology is “no mere means” (1977, p. 5). In his groundbreaking essay “What is Technology?” he argues that technology is not a neutral tool that can be used or discard at will but something that inevitably shapes our very being. For Heidegger, when we use technology, “we are delivered over to it in the worst possible way when we regard it as something neutral; for this conception of it … makes us utterly blind to the essence of technology” (p. 4).

Following this critique, many philosophers of technology have articulated how we are transformed by the technologies we use. In the case of education, technology is not a neutral tool used to improve learning, but a driving force that determines the very purpose of education. It promotes technological interests and values with the ultimate goal of aligning education with the aims of what Jacques Ellul (1967) calls the “technological society.” Thus, technology does not serve the ends of education; instead, education serves the end of technology.

Political philosopher David Tabachnick (2013) encourages us to ensure we make clear-headed judgments about technology, something that technology itself impedes. He describes how technology limits rather than expands human thinking as “The Great Reversal”:

We have flipped our priorities, placing the impetuses of technology above our judgments about what makes for a good life. The major consequence of The Great Reversal is the narrowing of human thought and action so that they fit within the confines of our technological society, leaving us unable to think and act upon new ideas that may stand outside of its powerful demands (p. 4).

Thus, not only is our subjectivity shaped by technology but technology limits human thought and action to such an extent that it becomes both more difficult to step outside of technology to consider what ends that technology should serve.

In a similar vein, educational theorist Neil Postman (1995) says that “every technology has a philosophy which is given expression in how the technology makes people use their minds, in what it makes us do with our bodies, in how it codifies the world, in which of our senses it amplifies, in which of our emotional and intellectual tendencies it disregards” (p. 3). Postman’s point is less that technology becomes normalized the more we use it, but more about the tacit limitations each given
technology imposes (and the way we unquestioningly accept them). He calls this critique “ecological” because technology is not something that is simply added to an existing environment but rather something that changes the whole ecosystem. He explains this idea as follows:

What happens if we place a drop of red dye into a beaker of clear water? Do we have clear water plus a spot of red dye? Obviously not. We have a new coloration to every molecule of water. A new medium does not add something; it changes everything. In the year 1500, after the printing press was invented, you did not have old Europe plus the printing press. You had a different Europe. After television, America was not America plus television. Television gave a new coloration to every political campaign, to every home, to every school, to every church, to every industry, and so on (p. 4).

In line with Postman, I argue that the advent of Big Tech has changed the “ecology” of education on the same scale as the printing press or television. For example, Google is not merely somewhere to look up information, but “has effectively become the arbiter of important, relevant knowledge (through which) people can accept their judgment as correct without further investigation” (Krutka et al., 2021: p. 7).

This inseparability of our subjectivity from technology, and technology from education, is described by Jandric et al. (2018) as characterizing the emerging “postdigital age”: “We are increasingly no longer in a world where digital technology and media is separate, virtual, ‘other’ to a ‘natural’ human and social life. This has inspired the emergence of a new concept—‘the post-digital’” (p. 893). The postdigital “gives rise to the “postdigital subject,” one that is enmeshed in and extended through digital technologies” (Ford and Jandric, 2021: p. 3.). These philosophical problems that attend all forms of technology are especially pronounced in the digital technologies that have earned Big Tech such high profits during the pandemic. Seemingly neutral terms like “platform” and “personalization” misrepresent the impact and character of these companies.

Big Tech companies are inaccurately called “platforms”, leading the political philosopher Nick Smick (2016) to coin the phrase “Platform Capitalism.” He argues that it is problematic to think of Big Tech as consisting of neutral and benign “platforms,” as this conceals their true character and impact by implying that they do not shape the content they host, the subjectivity and values of those who use them, or the larger political world in which these platforms occur. Smick’s helpful critique illuminates the ways in which the very term “platform” suggests something upon which our activities and pursuits are elevated. What I am suggesting is that it is in fact these same platforms themselves that are being elevated, while the content and users of these platforms are being effaced. What some call the “platformization” of education (Hillman et al., 2020) entails its disappearance (Means and Slater, 2019).

A second misleading term is “personalization,” which sounds attractive insofar as it implies a less standardized or rigid models of education (Bulger, 2016) However, it conceals considerable problems. Dishon (2017) notes the commercial origins of personalized learning (PL) in big data models from tech companies. PL “derives its model for how [personalization] can be achieved from commercial companies such as Netflix and Amazon, which have utilized big data to better understand individual consumption patterns, and customize their services accordingly”. Thus, the arguments for PL rely on the assumption that the helpful contribution big data could offer to education is to support a shift from standardization to personalization” (Dishon, 2017: p. 277). However, Roberts-Mahoney et al. (2016) argue that personalization “reflects the market-oriented rationalities and private interests of corporate control and standardization of K-12 education,” and outline how personalization “positions teaching and learning within a reductive set of economic goals and purposes that emphasize human capital development and training future workers” (p. 2).
In other words, personalization is actually a form of standardization in disguise, allowing Big Tech to subjugate education to private commercial interests and narrow its purview to meet economic demands. Some go so far as to claim that AI will soon do a better job of personalizing learning than any teacher could. This mirage of personalization comes at the cost of greater conformity, nudging students to become the future consumers that will continue to earn Big Tech its huge profits. Through the illusion of personal choice, technology manipulates students into accepting whatever best serves the interests of the corporation. Personalization implies that we are in the driver’s seat of our own learning and can decide what impact technology will have on education. It reassures us that the technology will become more accommodating, flexible, and adaptable to whatever it is that we ask of it the more we use it. Yet the above theorists clearly demonstrate that “personalization” is merely a disguise for the process by which technology compels us to adapt to it.

This overview of philosophical views about technology, particularly the role of Big Tech in education, highlights several alarming trends that have become more pronounced and alarming over the course of the pandemic. Not only is Big Tech making billions as a result of the pandemic but it is even more quickly shaping the ecology of education in equally profound and problematic ways. Teaching and learning in a tech-saturated ecosystem—like the proverbial fish in water—makes it difficult to disentangle and critically investigate the problematic consequences of technology. Although technology has been so integrated into all parts of modern society and education it seems absurd, naive, impossible to challenge any aspect of this postdigital age. Even our language reflects this: In addition to problematic terms like “platform” and “personalization,” phrases such as “technology-enhanced learning” (TEL) obscure how technology does not merely enhance but actually changes learning, promoting the myth that “technology alone has innate power to effect positive, market driven changes to the ways that people learn” (Jandrić et al., 2018, p. 894. See also: Hayes, 2015; Hayes and Bartholomew, 2015; Hayes and Jandrić, 2014). Bayne (2015) notes that, “...far from being an unexceptionable and neutral term simply in need of clearer definition, (technology) in fact carries with it a set of discursive limitations and deeply conservative assumptions which actively limit our capacity to be critical about education and its relation to technology (p. 7). Bayne outlines how TEL discourse casts technology “as being simply about the ‘enhancement’ of existing practices” (p. 9). When technology is construed as separate and distinct from education in this way, she argues, the extent to which education becomes structured and shaped by that technology is obscured.

**Big tech = ed tech: A sheep in wolf’s clothing**

Some of my critiques about technology thus far speak broadly about Big Tech. However, one could easily object that, while Big Tech may be problematic, Ed Tech is its harmless and innocent cousin insofar as it is concerned with helping people learn. Weller (2014) calls this the “Silicon Valley narrative”: that education is broken and that technology is a neutral tool that can save it, and that flexible instructors and the right kind of pedagogy can overcome any problematic effects of technology. Google representatives often reassure school boards that Google is fine for students because there are no ads on their educational platforms (Desson, 2018). Moreover, Ed Tech companies are generally smaller, less profitable, and less intrusive in daily life and in society beyond schools. I suggest, however, that these comparatively smaller profits are further evidence of the extensive reach of Big Tech: those cases where little or no profits are made are in fact opportunities for larger Big Tech corporations to fund Ed Tech with the expectations of profits to come. The research report on the “Global Education Technology Market” anticipates growth of 20%—a value of US$318.8 B—by 2027 (Market Study Report, 2021). Although it might at first seem that there is
a big difference between tech companies like Facebook or Amazon and Coursera or Course Hero,
the line is increasingly blurry as Ed Tech companies capitalize on the ever-increasing commercialization of education (Bailey et al., n.d.). For example, the textbook company Pearson has been transforming into a digital media company in recent years, preparing for this new role by hiring a former Disney executive (Wan, 2020b) and buying up Big Tech companies (Wan, 2020a).

Often Ed Tech is simply Big Tech in disguise and at an earlier stage of development. Ed Tech has
a propensity to become Big over time and, even when this does not happen, small Ed Tech companies often turn out to be owned by monolithic Big Tech companies. This trend towards tech monopolies is at the heart of the problems I lay out in this paper: Big Tech and Ed Tech function according to the same algorithmic principles and profit motives. Their first obligation is to their shareholders and they adhere to the same fundamental market principles. At the highest level, there is little difference between companies that work with kids in the classroom, companies that sell things to kids, companies that provide social outlets for kids, and companies that entertain kids. This is what educational theorists call the education-entertainment matrix or “edutainment” industry (Kenway and Bullen, 2001), noting that the language used to discuss Ed Tech is characterized by similar forms of dissimulation, persuasion, and rhetoric to those found in the discourse of Big Tech. Big Tech and Ed Tech are governed by the same neoliberal principles. Although they may provide helpful services during a global pandemic it is important not let our dependence on these services obscure the fact that these commercial institutions “…reflect the market-oriented rationalities and private interests of corporate control and standardization of K-12 education” (Roberts-Mahoney et al., 2016: p. 2).

In addition to access to student data, perhaps the greatest attraction for tech companies to get involved in education is that it is a great branding opportunity: “K-12 is not a big money maker but it’s a big branding opportunity… It’s a good hedge against public policy interference. It’s a good shareholder branding opportunity. And it makes the employees feel good. It’s a hell of a motivator for your sales force and marketing team” (Klein, 2020). Educational contexts are highly sought after as sites to create the next generation of consumers (Norris, 2011).

In a world where shareholder profit trumps educational values, the particular form of education promoted by Ed Tech diminishes imaginary possibilities (Cobb, 1977), democratic values (Westheimer, 2021), and critical consciousness. Ideland (2021) interviewed twenty-five “edu-
preneurs” who sell Ed Tech to Swedish schools and found that Ed-tech discourse does not simply position technology as a helpful resource for teachers but also cultivates a certain conception of the teacher that is clearly aligned with neoliberal values and norms. In other words, Ed Tech comes with its own built-in conception of education that marginalizes other models. Although some entertainment may have pedagogical value—for example, learning math through video games—such games do not always advance broader critical thinking skills (Williamson, 2018). For example, it is possible to play games online while remaining equally unquestioning about one party state rule and apathetic about the value of democracy. Attempts to harness video games for the public good—such as gaming for charity—often fall prey to the same problems identified in the wide literature on philanthrocapitalism: it is inadequate for dealing with the very problems it creates, serving as a mask for power and justification for the status quo (Dyer-Witherford and De Peuter, 2010).

Ed Tech is problematic for all the ways that it is similar to Big Tech, but, as I emphasize in this paper, there are aspects of Ed Tech that make it even more problematic than Big Tech and play down the importance of a well-trained and adequately paid teacher to facilitate positive educational outcomes. As Barshay (2019) comments “ultimately tax dollars are what are paying for these companies’ products, either in the form of public school spending on supplies or in the form of
federal student loans for college tuition. Every dollar spent on a piece of software is one dollar less for a good teacher’s salary.”

My discussion thus far regarding technology—its unprecedented profits, its unique hold on our attention and our data, and its propensity to influence our thinking and behavior in insidious ways—highlights the problematic consequences of technology. Despite—and sometimes even because of—their problematic features, tech companies are coming out as significant beneficiaries of the pandemic. The above critiques of Big Tech and Ed Tech are intended to emphasize the importance of reining in their influence in the education sector to prevent an even greater transfer of wealth and educational influence to commercial interests in a post-pandemic future.

In light of Big Tech’s obscene profits and alarming impact on society, especially schools, a clear imperative exists to mitigate these harms at the broadest level. Although regulations for Big Tech are extremely important, they cannot be implemented overnight nor will they be felt immediately. In the short term, I argue that targeted taxes are a justified and fair way to reduce the harm perpetrated on society, and especially education, by the tech sector. Call it a “Pandemic Profiteering Education Tax.” Given that their profits rely heavily on the exploitation of user data, Big Tech must not only be better regulated but must also pay for that data. In the sphere of education, such a tax would help schools, teachers, and education in general with the financial fallout of the pandemic.

**Democratic renewal: a democratic “arms race” in education**

Drawing on economic and philosophical arguments, I have suggested that taxing Big Tech to support the educational systems it exploits will curb its own worst tendencies. In this section I turn to the political and address the urgent need for greater support for the specifically democratic function of education. I argue that there are significant threats to democracy in our tech-saturated world and that education has an essential role in confronting these.²

Some 30 years ago, Francis Fukuyama argued that end of Soviet style Communism demonstrated the superiority of liberal democracy. However, we now face considerable new challenges to liberal democracy from within and without. Sophie Ward (2020) notes that the victory of economic and political liberalism Fukuyama celebrates also included the victory of free market principles, the very same principles that have allowed Big Tech such a huge role in the education sector, all while avoiding significant taxation. In other words, the achievement of economic liberalism, with its privileging of commercial interests, also compromises the democratic function of education, as I have argued elsewhere (Norris, 2011, 2020).

There is mounting evidence that democracy is at risk around the globe specifically because of the COVID-19 pandemic. The Economist (2020) notes that, “almost 70% of countries covered by The Economist Intelligence Unit’s Democracy Index recorded a decline in their overall score, as country after country locked down to protect lives from a novel coronavirus. The global average score fell to its lowest level since the index began in 2006.” Some democratic theorists argue the pandemic has shown that a one-party state, with its ability to overlook the individual freedoms of its citizens, may be better equipped to handle emergencies of this nature (Kupferschmidt and Cohen, 2020; M´erieau, 2020). Some question whether democracy is an adequate political system to deal with large-scale, long-term, complex problems (Niemeyer, 2014), like those that will face us as we emerge from the pandemic.

It cannot be taken for granted that the future will be characterized by stable democracies. Democracy around the world is under siege, as populism and authoritarianism grow stronger and more widely embraced (Economist, 2017; Applebaum, 2020). What makes this trend most troubling is that it is also happening within long established liberal democracies which display increasing
vulnerabilities to anti-democratic forces, demonstrating that the erosion of democracy is a problem facing not just those nations that already have communist, fascist, or dictatorial regimes in place. As we emerge from the current health crisis it is important to recognize such threats to democracy and work to prioritize the contributions education can make to promoting democracy. To return to the cold war language of Fukuyama, the rise of Big Tech necessitates a democratic “arms race” in education.

When I ask my first-year teacher education students what they think education might look like in 50 or 100 years, their responses are almost exclusively about the growing impact of technology and the likelihood that it will eventually make teachers redundant. This view is expressed with a combination of alarm, humor, and a sense inevitability. But these future teachers are much less sanguine about democracy: the fate of democracy seems much more fragile and tenuous than the future of technology growth. In other words, students believe that the future growth of technology is assured while that of democracy is not.

The dramatic and life-altering impacts of COVID-19 can easily make us less sensitive to the subtler changes happening in education, but make those changes no less threatening to the fabric of democracy. Political philosophers Levitsky and Ziblatt (2018) argue that democracies do not necessarily deteriorate dramatically or even violently, but gradually and sometimes unnoticeably: “Democracy no longer ends with a bang—in a revolution or military coup—but with a whimper: the slow, steady weakening of critical institutions, such as the judiciary and the press, and the gradual erosion of long-standing political norms” (p. 12). Although Levitsky and Ziblatt do not address it, the weakening of the education system is just as problematic as the weakening of the judiciary and press, arenas where perceived threats to democracy are more likely to be noticed and critiqued. And the democratic role that education should play in our society is certainly eroding.

A clear sign that education is failing to instill democratic values in today’s students is the decline in the belief that democracy is important, showing that perhaps the greatest cost of authoritarianism is not only the erosion of democratic institutions but the declining belief that democracy itself is worthwhile. Even before the pandemic, youth attitudes towards democracy were already alarming. Foa and Mounk (2017) write:

Among young Americans polled in 2011 a record high of 24 percent stated that democracy is a “bad” or “very bad” way of running the country—a sharp increase both from prior polls and compared to older respondents. Meanwhile, the proportion of Americans expressing approval for “army rule” has risen from 1 in 16 in 1995 to 1 in 6 in the most recent survey… the proportion of Americans who state that it is “essential” to live in a democracy, which stands at 72 percent among those born before World War II, has fallen to 30 percent among millennials… In virtually all cases, the generation gap is striking, with the proportion of younger citizens who believe it is essential to live in a democracy falling to a minority (pp. 5–6).

Similar trends exist in Canada. Research by Statistics Canada (Turcotte, n.d.) suggests that the political participation and civic engagement of youth aged 15–24 is the lowest of any age group: they are the least likely to vote or participate in politics in other manners. At the same time, this report notes that “education is a significant factor in political participation” as “regardless of age group, a higher level of education is associated with increased political participation” (Turcotte, n.d.).

Despite the fact that education still seems to be supporting democracy, it is not doing this as well or strongly as it used to (as seen in the generational gap), and likely austerity measures resulting from pandemic related deficits will further undermine this possibility.
These trends show that ironically, the erosion of democracy is contributing to increasingly apathetic attitudes towards it. Authoritarianism and limited success of Western liberal democratic countries to contend with the pandemic seems to suggest that democracy is deficient not only against the pandemic but also against authoritarianism. Yet democracy needs even greater promotion and protection rather than less.

The erosion of democracy around the world can be directly linked to the influence of Big Tech. Almost a hundred years ago educational theorist John Dewey (1986/1933) warned us about the threat that such large commercial interests present, describing an “oligarchy of wealth” who “rule over us because they control banks, credit, the land, and big organized means of production…Power today resides in control of the means of production, exchange, publicity, transportation, and communication. Whoever owns them rules the life of the country” (p 77). One hundred years after Dewey it is clear that the decline of democracy in general can be tied specifically to how the pandemic has strengthened the hold of Big Tech—and its democracy-undermining guiding principles—on the education sector. Some democratic theorists call this an example of “oligarchic capture” (Del Savio and Mameli, 2014).

One of the ways in which Big Tech itself contributes to anti-democratic movements such as populism and ethnonationalism is by providing the platforms that allow such ideologies to spread. Since the destabilizing effect of Big Tech on democracy is so apparent in this respect, it is important to ensure that education serves as a bulwark against the kind of populism that has undermined democracies throughout the 20th and twenty-first centuries. University of Ottawa researcher Joel Westheimer (2021) notes that, “a well-functioning democracy needs schools that teach students to recognize ambiguity and conflict in factual content, to see human conditions and aspirations as complex and contested, and to embrace debate and deliberation as a cornerstone of democracy” (para. 11). Such complexity and respectful conflict are anathema to Big Tech, which seeks to monetize and reward simplistic polarization, reactionary discord, and post-fact discourse (Mihailidis and Viotty, 2017). When it comes to the protection and promotion of democracy, education and powerful technology companies are strange bedfellows. A pandemic profiteering tax would counterbalance the anti-democratic tendencies of Big Tech by supporting the educational institutions that have the potential to enable students to fight against fake news and populism as democratic citizens. (Hess, 2009)

As we emerge from the COVID-19 pandemic, Dewey’s statement of a century ago is increasingly evident: “democracy has to be born anew every generation, and education is its midwife” (Dewey, 1980). Krutka et al. (2021) argue that “schools should not be places where educational technology titans exploit students, test new products, or reimagine education through their own techno-corporate ideals of personalization, efficiency, and profits” (p. 8), but should instead be places for critique. Today’s schools, often beholden to Big Tech, are not always living up to this ideal, its students unable to adequately detect false information (Breakstone et al., 2021). Education has failed to address the challenges of a “post-truth” context (Peters, 2017), and the need for education “to promote learners’ dispositions and abilities for seeking the most accurate and well-justified ideas in complex and epistemically “unfriendly” media environments” (Chinn et al., 2020: p. 51). Breakstone et al. note that “the health of a democracy depends on people’s ability to access reliable information,” and that it is “imperative to democratic functioning that students know how to assess the quality of information on which they base their decisions” (p. 1). In the current climate, schools do not have capacity to adequately support such democratic education; a pandemic tax would give them the resources to address this shortfall.

Somewhat ironically, educators can use the topic of Big Tech to promote critical democratic values. For example, teachers can raise important questions about the corporations that have become
such central parts of our culture and daily lives, not to mention education. Krutka et al. (2021) describe many ways educators can make Big Tech an educational topic for critical examination, such as “conducting technoethical audits” (p. 8) in which companies are evaluated on the extent to which they adhere to their own Terms of Service, whether this technology constrains democracy, whether it enables or constrains learning, and whether the technology was designed ethically (p. 2). This would effectively make the causes of many of these problems into the object of investigation, for pedagogical aims.

If schools are burdened with significant financial responsibility for dealing with the financial consequences of COVID-19, however, they will not have the capacity to engage in this kind of democratic education, particularly as they are also contending with ongoing threats from Big Tech, now positioned as the “new educator.” It is important to anticipate the true consequences of the pandemic for education, educational funding, and the democratic function of education. Transferring educational decisions from public school classrooms and teachers to private corporate interests to fund budget shortfalls, for example, by allowing Big Tech to influence or even set the educational agenda, is not the answer. A Google High or a Facebook University are not compatible with the tenets of a democratic society. Without a course change, COVID-19 is poised to become not only a boon for Big Tech but also could turn out to be the best thing Big Tech could have hoped for—but also the end of education as we have known it.

The democratic function of education can only be promoted through a balanced analysis of the impact of Big Tech on education. However, that task is significantly undermined when Big Tech pays for its own research. Abdalla and Abdalla (2021) draw a comparison between Big Tech and Big Tobacco, who as a result of increasing pressure began to sponsor academic research in the medical and biological sciences in order to influence policy makers and the general public regarding the health effects of smoking. The same is happening with Big Tech regarding academic research: “the funding of academic research as a tool used by Big Tech to put forward a socially responsible public image, influence events hosted by and decisions made by funded universities, influence the research questions and plans of individual scientists, and discover receptive academics who can be leveraged.” To measure the influence of sponsored academic research the authors examine the funding of tenure-track researchers in the “computer science department at 4 R1 (top PhD granting) universities: Massachusetts Institute of Technology (MIT), UofT, Stanford, and Berkeley. We show that 52% (77/149) of faculty with known funding sources (29% of total) have been directly funded by Big Tech. Expanding the criteria to include funding at any stage of career (i.e., PhD funding) as well as previous work experience, we find 84% (125/148) of faculty with known funding sources (47% of total) have received financial compensation by Big Tech” (page 6). Support also extends to funding of major conferences, think tanks, and research projects, as tracked by the “Tech Transparency Project” (TTP, n.d.) which provides information about which organizations are receiving funding from Big Tech. This high degree of influence poses a significant conflict of interest and threat to the autonomy and independence of academic research into the impact of Big Tech on education. When such a large amount of research receives direct financial support from those same commercial interests who will benefit the most one can readily wonder whether policy makers, educators and the general public are getting a full and balanced picture. Otherwise, the pandemic may contract the debate about the role of technology in the future of education, whereas it should instead promote greater research and critical reflection, esp research not funded by Big Tech itself. Tesar argues that the pandemic “has showcased how higher education lacks meaningful research into digital pedagogies and teaching and learning, that can be translated to academic colleagues, but also passed on to schools” (Tesar, 2020).
Final thoughts

What underlies these critiques is my argument that, while technology is often construed as something that helps education, it is often the case that technology and education are deeply at odds with each other. Although there is widespread popular support for better regulation of Big Tech, I also argue that pandemic profits should be repatriated and reoriented towards promoting the democratic function of education, in part because those profits come through highly questionable means and because of likely austerity measures we are already seeing. Otherwise, one major impact of the pandemic will be billions for an already powerful tech sector and cuts for education. I have outlined several crucial critiques of technology and identified several problematic ways it is adversely affecting education in the context of the Covid pandemic. Although not offering specific details regarding, for example, taxation rates, I have provided an economic, philosophical, and political argument for the necessity to restrain Big Tech in order to promote the democratic function of education. In light of this argument, and given that Big Tech has most successfully infiltrated our schools and most benefited from the pandemic, some of their extraordinary profits must go back into an essential but under-funded system. It is imperative that those concerned with the democratic function of education get ahead of the “austerity curve” and anticipate the arguments that are going to be made about the necessity to tighten our educational belts and reduce funding, thereby ceding even more control over education to Big Tech. The pandemic must serve instead as an opportunity to advance the democratic function of education rather than yield it to Big Tech, as we make the most of the destabilizing effects of COVID-19 to redirect the future course of the education sector.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Authors’ note

As Griffiths (2020) notes, Big Tech’s digital carbon footprint is comparable to the airline industry—although growing much faster:
The carbon footprint of our gadgets, the internet and the systems supporting them account for about 3.7% of global greenhouse emissions, according to some estimates. It is similar to the amount produced by the airline industry globally, explains Mike Hazas, a researcher at Lancaster University. And these emissions are predicted to double by 2025.
It is not just that Big Tech provides software that the oil and gas industry depends upon (Greenpeace, 2020), or that their platforms help to promote disinformation about climate change (Carrington, 2020), but that the industry itself causes tremendous pollution from production to end user. Some now call “The Cloud” the “Carbon Cloud” (Cloud Carbon Footprint, n.d.). “It’s green on the screen is quite a misnomer.

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Notes

1. A significant critique could be made about the carbon footprint of Big Tech. Studies show that the internet uses tremendous amounts of electricity and generates tremendous quantities of greenhouse gases in the process. In combining the electricity use of personal devices plus server farms, the internet generates “$5 billion per year in energy expenditures across the United States or 34 TWh/year (2.4% of residential electricity nationally), with 24 MT/year of associated carbon-dioxide emissions equivalent to that of 85 million refrigerators or over five million cars” (Mills et al., 2019). Those numbers do not include the production and transportation of personal devices, which studies show generates almost as many emissions (Madiha, 2020).

2. Although there are many models of democracy—deliberative, multiculturalism, participatory, critical, agonistic—there is not space in this paper to consider the many different models of democracy and the impact of Big Tech on each, nor which is better positioned to respond to Big Tech. Instead, I discuss democracy in a broad fashion but one that emphasizes liberal democracy.

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