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## A spectrum of surveillance: Charting functions of epistemic inequality across EdTech platforms in the post-COVID-19 era

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## A spectrum of surveillance: Charting functions of epistemic inequality across EdTech platforms in the post-COVID-19 era

### Abstract

Covid-19 and the public health policies emerging in response have laid bare a multiplicity of issues related to educational access and knowledge equity on a global scale. Among these, the quick shift to online and hybrid education models led teachers to adapt a plethora of digital platforms to deliver content and sponsor interactions). Such platforms range from institutionally sanctioned (and subscribed) Learning Management Systems (LMSs) to software provided by organizations beyond the institution and can pose a threat to student data and privacy. Data surveillance in educational contexts is not a new issue, nor is it only a strictly digital problem. However, the current milieu of constant and continuing public health crises has led to more frequent, uncritical, and hurried adoption of learning technologies. This article challenges professionals in higher education specifically to take a more critical look at the various EdTech platforms they are, have, and will adopt in the post-COVID-19 era, and the spectrum of surveillance such platforms enact. Through a review of common entities such as LMSs, Google Workspace for Education, and Zoom video conferencing software, this article demonstrates how these technologies place both teachers and students in a relationship to data and learning characterised by “epistemic inequality” or “unequal access to learning imposed by private commercial mechanisms”. By taking a closer look at the problematic surveillance functioning across EdTech, this article makes a case for Commons-based Peer Production communities as equitable, open educational alternatives that have resisted market-based neoliberalism and surveillance capitalism.

### Practitioner Notes

1. The Covid-19 pandemic led to dramatic increases in Edtech adoption at all levels of education. Such adoption was often hurried and uncritical, furthermore.
2. Both traditional Edtech such as Learning Management Systems (LMSs) and more recent educational and communication platforms introduced by “big tech” actors such as Zoom and Google sponsor unethical surveillance and datafication of students, leading to dehumanizing educational models. However, such surveillance exists on a spectrum and LMSs are much less exploitative than “big tech” projects.
3. Educators at all levels, but especially postsecondary, should practice criticality when adopting and using Edtech, and offer students opportunities to better understand issues related to surveillance, privacy, and data extraction.
4. Educators should consider engaging students in more ethical models of digital and non-digital education platforms and projects, such as those offered by Commons-based Peer Production (CBPP) projects like Wikipedia.

### Keywords

COVID-19 pandemic, Educational Technology, Learning Management System, LMS, Commons-Based Peer Production, OER, OEP, Wikipedia

## Introduction

Covid-19 and the public health policies emerging in response have laid bare a multiplicity of issues related to educational access and knowledge equity on a global scale (Pokhrel & Chhetri, 2021). Among these, the quick shift to online teaching has led teachers to newly adopt and/or rely more heavily on a plethora of educational platforms to deliver content and sponsor both teacher-student and student-student interactions (Dhawan, 2020; Díez-Gutiérrez & Gajardo Espinoza, 2021; Kaqinari et al., 2021; Lieberman, 2020). Such platforms are not uniform by any means and are sponsored and founded by a variety of actors with different stakes and positionalities. Learning Management Systems (LMSs), such as Blackboard, Edmodo, Moodle, and Canvas, are perhaps the most frequently used educational technology, both pre-and post-pandemic, though the rush to move courses online in the spring of 2020 prompted many educators to utilize and rely on such systems more heavily than they had in the past, either of their own volition or as a response to managerial pressures.

LMSs are typically institutionally sanctioned and invested in, which means that the college or university has spent both money and resources towards the wide-scale adoption of these platforms for online, hybrid, and face-to-face learning. This also means that there is typically more documentation regarding how these systems operate in terms of privacy, surveillance, and student data. After all, LMSs depend on institutional subscriptions to operate and, therefore, must cater to students, professors, and administrators' desires and concerns. Alongside this increased reliance on LMSs, instructors also adopted other educational and communication technologies, including many that are not so strictly defined by the institutional-subscription economy. Among these, corporate tech giants Alphabet (Google), Amazon, and Microsoft (and more recently, Zoom) saw the pandemic as an opportunity to rapidly scale up their educational technology offerings (Williamson et al., 2020).

By examining the spectrum of ways in which forms of educational technology (Edtech, hereafter) can pose a threat to student data and privacy, this article seeks to engage higher education professionals across disciplines in more critical interrogation of their own technologically-mediated teaching practices, as well as offer an alternate avenue for more ethically-based, or at least reflective, uses of Edtech centered on Commons-based Peer Production (CBPP) communities. Although LMS systems, Edtech start-ups, and larger technology corporations (such as Google and Zoom) all fall into this expanding category of Edtech, we will differentiate by examining aspects of these technologies in regard to functions of surveillance and unequal access to learning (or “epistemic inequality”) to tease out areas of concern for professionals in higher education. We ultimately contend that Edtech platforms exist on what we term a *spectrum of surveillance*, with long-standing LMSs on one end enacting more innocuous (and even at times productive) modes of surveillance, and big tech, on the other end, transforming educational technology products towards the commodification and commercialization of student data.

Substitutions for in-person learning have been around for hundreds of years – distance learning originated in the 1700s, and numerous other educational technologies have been developed over the years to supplement “traditional” education systems (Gershon, 2020). In the 1980s, the advent of affordable personal computers and their subsequent rapid adoption created new opportunities for education. Dial-up Bulletin Board Systems (BBSs) were used by a small number of universities

as early as 1988 as a way to disseminate information, engage with students, and gather homework. Firstclass, considered the first online (networked to the Internet) LMS, was released in 1990 (Chaubey & Bhattacharya, 2015), paving the way for others such as Blackboard (1997) and Moodle (1999) (Aldiab et al., 2019). Despite the massive change in technology from postal mail to Internet-driven networked systems, all of these distance-education systems functioned as a way to distribute and collect education-related information, increasing access and equity beyond the traditional classroom while at the same time enabling more powerful forms of surveillance.

In the following sections, we build a framework for theorizing surveillance in education, grounding our investigation in Foucault's (1994) work and more recent scholarship by Shoshanna Zuboff that theorizes "epistemic inequality" in surveillance capitalism (2020). Applying Foucault and Zuboff to the surveillance and commodification of students and student data, we argue that while traditional LMSs might not pose the same level of threat compared to newer Edtech (especially as it relates to the appropriation and commodification of student data), they continue to operate in ways that enact epistemic inequalities via processes of datafication and the construction of certain exploitative relations between student, teacher, and technology. A critical analysis of recent Edtech (i.e., Google and Zoom), additionally reveals more significant problems when it comes to both surveillance and commercialization of student data due to their models for extracting user data and behaviour. What emerges is a "spectrum of surveillance" within education, in which the ethical problems posed by Edtech can be understood in regards to *what is done with student data*, alongside questions of access, equity, and pedagogy. In the end, we make recommendations for higher education professionals to question the usage of (as well as limiting or abandoning altogether) certain educational technologies while recommending one possible alternative that engages Commons-based Peer Production (CBBP) projects for engaging Open Educational Resources (OERs) and Open Educational Practices (OEPs) without excessive surveillance.

## **Surveillance, Datafication, and Epistemic Inequality**

Surveillance in educational contexts is not a new problem, nor is it a strictly digital problem (Andrejevic & Gates, 2014; Eubanks, 2018; Gates, Lindh & Nolan, 2016; Minocher & Randall, 2020; Williamson, 2017). Even before the pandemic led to increases in Edtech adoption, the U.S. Federal Bureau of Investigation (FBI) issued a warning about the dangers of surveillance by big tech in education (2018). Furthermore, the surveillance itself, in one form or another, whether benign or actively exploitative, has always been part of education. In western cultures, and especially those in which neoliberal capitalism has put increased pressure on education, surveillance is both expected and even welcomed by some teachers and students. Want an example? Consider the widespread adoption of and enthusiasm (often accompanied by the rhetoric of academic integrity) around plagiarism detection software such as Turnitin. Such software has been critiqued because it can only effectively identify possible document matches (plagiarism) by surveilling students to amass a database of essays to which all new submissions would be compared (Zimmerman, 2007; Zwagerman, 2008).

While it may feel cliché to invoke Foucault's discussion of power in regard to Bentham's panopticon<sup>1</sup> here, it remains relevant to understand the function of surveillance within the educational system. Foucault's analysis famously compared a variety of social institutions, including prisons, hospitals, asylums, and schools, to make realizations about their similarities in architecture and social organization. Foucault illuminated that, among other things, disciplinary power and control are exercised through constant surveillance (or the illusion of surveillance) and that these power relations have the capacity to regulate and control subjects' (inmates', patients', students') bodies, behaviours, and cognition (1994). Surveillance has always been part and parcel of education – observing student behaviour is an important aspect of education – but understanding it as a spectrum helps frame questions about *how much surveillance* and *why we are surveilling*.

Foucault's analysis of surveillance helps interpret the function of traditional, institutionally-sanctioned LMSs that operate in a more familiar market economy (their primary source of income remains the licensing and maintenance of their platforms). To better understand the motives of big tech actors, we engage Shoshanna Zuboff's work on epistemic inequality and surveillance capitalism (2020). If we are to fully grok the capitalist logic of big technology firms such as Alphabet (Google), Zoom, and the like, in other words, we need to update Foucault with more recent theories. In the traditional understanding of surveillance, these firms seem less concerned with control or power – instead, they seek information (data) to utilize, trade, and otherwise exploit. And so we turn to Zuboff, for whom “surveillance capitalism” is the overarching system that has made epistemic inequalities so commonplace. Epistemic inequality, or “unequal access to learning imposed by private commercial mechanisms of information capture, production, analysis and sales,” is “best exemplified in the fast-growing abyss between what we know and what is known about us.... The new centrality of epistemic inequality signals a power shift from the ownership of the means of production, which defined the politics of the 20th century, to the ownership of the production of meaning. (“You Are Now Remotely Controlled,” 2020, n.p.) For Zuboff, epistemic inequality is an outcome of a “new economic order... [one] that claims human experience as free raw material for hidden commercial practices of extraction, prediction, and sales” (2019, p. 8). As applied to the topic at hand, surveillance capitalism helps to explain and interrogate the market logic behind Edtech giants such as Google, as it revises our understanding of a set of relations surrounding traditional market economies, and the general concern for the movement of small green pieces of paper:

Surveillance capitalism's products and services are not the objects of value exchange. They do not establish constructive producer-consumer reciprocities. Instead, they are the 'hooks' that lure users into their extractive operations in which our personal experiences are scraped and packaged as the means to others' ends. We are not surveillance capitalism's 'customers.' Although the saying tells us “If it's free, then you are the product,” that is also incorrect. We are the sources of surveillance capitalism's crucial surplus: the objects of a technologically advanced and increasingly inescapable raw-material-

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<sup>1</sup> The panopticon may refer to both the system of control or the architectural design proposed by Jeremy Bentham for the constant observation (or surveillance) of inmates of a hospital or prison in the late 18<sup>th</sup> century.

extraction operation. Surveillance capitalism's actual customers are the enterprises that trade in its markets for future behaviour. (Zuboff, 2019, p. 10)

Viewed historically, the project of education has always struggled with questions of access and equity. In fact, the very etymology of the language around schooling reflects this: school, scholarship, scholastic, all of these words come from the Greek *skholē* which originally referred to “spare time, leisure; conversations and the knowledge gained through them during free time; the places where these conversations took place” (“school,” 2022). Schooling is a project for those with the privilege of leisure. And the privilege of leisure is always inherently connected to economic security.

Whether from unequal funding between schools, pipeline concerns to ensure diverse student bodies or financial equity for student livelihoods, there is always a struggle to create systems of equity where students can perform their best. The Covid-19 epidemic highlighted and exacerbated some of these problems, particularly around access to quality laptops (or laptops at all), and high-speed internet (Masonbrink & Hurley, 2020; Tadesse & Muluye, 2020). These systems of power continue to intensify these equity gaps, as they do little to answer these questions.

## **Economies of Information Transfer: From the LMS to Google Classroom**

Although surveillance and epistemic inequality are inherent to the social endeavour of education itself, new communicative technologies in the twentieth and twenty-first centuries have amplified those functions and evolved their outcomes and markets. LMSs first originated in the 1990s, with the main priority being the collection and distribution of information for education. Instructors can provide materials related to curriculum and assessments, deliver feedback, and communicate announcements. At the same time, students have access to such materials and can quickly transfer their work to the teacher, collaborate with peers, and learn through socially-mediated activities and platforms. As the Internet and computer technology advanced at the end of the twentieth century, such affordances made distance education more accessible. More recently, LMSs played a significant role across the higher education sector during the Covid-19 pandemic, especially in the spring of 2020, as institutions worldwide shifted to remote instruction at a moment's notice. It is essential to state that, without LMSs, this period of remote learning would have represented even more “learning loss” as these systems were heavily relied upon to deliver instruction (Dawhan, 2020). With these acknowledgments in mind, we offer some critiques.

Compared to big tech educational tools, the surveillance carried out by LMSs can be fairly benign, consisting primarily of “server log data tabulated and presented in various ways” (York, 2021, p. 7), according to a query made by the instructor. However, these systems are not, as we would expect to believe, entirely without issues, either. As technological systems that structure student-teacher and student-student relations and create rules, forums, and relationships that guide pedagogical design, interaction, and understanding, LMSs tend to crystallize often unhealthy and dehumanizing pedagogical interactions. These systems are, first and foremost, nearly always characterized by a type of epistemic inequality that the omnipresent monitoring of student progress brings about. Most students don't know the details (or understand the extent) of their participation in the LMSs' data capture. Thus, what creates the inherent epistemic inequality of

LMSs is the full extent of the instructor's ability to access data at multiple contact points between the system and the student. When the student accesses the course within the LMS, details such as how long (in minutes and hours) they spend logged in are nearly always tracked alongside more predictable data points related to assessment needs (i.e., a student's completion of an activity or an assignment).

Similar to critiques of plagiarism detection software (Bakhtiyari et al., 2014; Bruto & Childers, 2016) such as Turnitin, the LMS creates or exacerbates certain imbalances of power and surveillance that often result in potentially unhealthy and dehumanizing pedagogies. Two circumstances help to understand these imbalances: First, LMSs disembody the student, transforming them into a collection of data points related to their participation in course activities. LMSs very often offer a "student snapshot" feature, which among other items, reports to the instructor on data related to the student's last log-in, time spent in the LMS, submitted assignments and activities, and even a record of viewed or completed content. Such features may encourage the instructor, if not critically trained, to adopt the gaze of the LMS, dehumanizing and reducing the student to a "corpus of texts" (DePew & Rust, 2009, p. 174). DePew and Rust's examination of the power dynamics of distance learning interfaces finds that the default setup of most interfaces, without significant instructor intervention, tends to have been designed with a traditional teacher-as-authority, hierarchical view of education in mind, one that recalls a teacher-centered, banking-model of education (Freire, 2003). Second, LMSs enable the large-scale collection of learning analytics based on student performance. As we have acknowledged, this type of surveillance may positively impact educational quality and outcomes, depending on how it is stored and utilized within a particular institutional setting. From the perspective of student privacy concerns, what becomes most problematic is that students (and even professors) often know very little about the learning analytics at play in their course LMS. This situation has prompted Duin and Tham (2020) to pose the following questions about LMS and learning analytics: "Where do the data reside? Who has access to these data? And how are they analysed and used in decision-making at the course level and beyond?" In their investigation of the University of Minnesota's adoption of LMS Canvas, Duin and Tham emphasize, among other issues, the discrepancies between levels of access across three specific user groups: students, instructors, and administrators:

Students have access to a Grades page and potential "what if?" analyses tools in terms of the impact of future assignments on overall grades. In addition to grade information, instructors have an overview of student participation that includes summaries of page views, participation, and status of assignment submissions. In stark contrast is administrator access that, in addition to the above, includes all student page views, enrolment activity, student competency based on submissions and overall activity in courses, and complete "detailed logs of activity." (Duin & Tham, 2020, n.p)

Such access levels ultimately evidence the extent LMSs take on additional functions of both surveillance and concealment in the contemporary university. Such surveillance becomes especially problematic given that students have no way of "opting out" and are very often, if not always, completely unaware of these functions. Unfortunately, this represents only the tip of the iceberg, the lower end of the spectrum of surveillance in the control and commodification of education.

Further along the spectrum, LMSs often integrate additional software applications that extend the unequal power dynamic while appropriating and exploiting student data for commercial gain. Plagiarism detection applications such as Turnitin, often adopted by institutions, programs, and teachers as tools for ensuring “academic integrity” (Bruton & Childers, 2016; Zwagerman, 2008), very often lead to a classroom culture of surveillance in which suspicion pre-empts the teacher-student relationship (Harris-Moore, 2013). Just as problematic, plagiarism detection software is designed around the exploitation of students’ intellectual and arguably copyrightable property. Such property, aka student writing, is solicited in the name of checking it for originality, but then becomes a part of the database through which all other student work is compared. Such data surveillance “sleight of hand” obfuscates the real product institutions pay for. Hint: it’s not academic integrity but rather the capacity for surveillance and exploitation of student writing via big data capture and targeted originality algorithms. Because of this, projects like Turnitin represent something of a bridge, or a middle point on the spectrum of surveillance, between more innocuous LMS Edtech and the exploitative data capture pursuits of big tech, especially in the way that the efficacy of their product (effective plagiarism detection) depends so heavily on user data.

Compared with LMSs, big tech’s foray into educational technology presents significantly more complex ethical challenges. Perhaps the most important to understand here is that big tech, even before targeting education, has radically evolved the internet market economy based on the commodification of user data. Such evolution is most evident, perhaps, from the perspective of public awareness, in social media networks such as Meta’s Facebook. Facebook is advertised as “free” in the sense that the user does not purchase a subscription to use the social media network. However, the user (often unknowingly) submits to a privacy agreement in which they give up the rights to their data. While digital privacy advocates have thoroughly critiqued actors like Facebook and Alphabet’s search engine has been examined from the perspective of critical algorithm studies and race (Noble, 2018), less scrutiny has been paid to Google Workspace for Education, especially regarding its use in schools (at all levels) (Krutka, Smits, & Willhelm, 2021).

Google Workspace for Education (formerly known as Google Apps for Education), represents a “typical artifact of the surveillance economy” in which “platforms provide services that are free for use while economic value is produced through the packaging [and re-sale] of information generated” (Lindh & Nolan, 2016). As York and others have acknowledged, “rather than protecting and restricting access to student data, such corporate systems, especially the free-to-use variety, instead subject the data to far more sophisticated analysis than is available to the average Blackboard instructor, and then sell these data to others” (Russell et al., 2018; York, 2021). While Google Workspace for Education has made significant inroads in primary and secondary public schools (and indeed, their surveillance operations in that sector are much more problematic), their applications are commonly taken up by higher education instructors. *Google Workspace for Education* provides “free” access to applications like Google Docs, Jamboard, Classroom, Meet, Sheets, Forms, and more. The company’s marketing initiatives are successful because they can offer effective technology at low or no cost, often being adopted wholesale by districts with limited budgets for technology costs while obscuring the back-end procedures to collect, extract, and sell student and educator information (Krutka, Smits, & Willhelm, 2021). At the height of the pandemic,



Alphabet saw its Google Classroom users double as schools worldwide rushed to provide online solutions for remote learning (De Vynck & Bergen, 2020).

Although it is difficult to understand how much of their profits are generated in the education sector, in 2021 alone, Google's ad revenue amounted to 209.49 billion U.S. dollars (Statistica, 2022). Such procedures violate federal and state laws intended to protect student privacy, and as such, Google has been sued multiple times by state and federal actors over these concerns (e.g., *Arizona v. Google*; *New Mexico v. Google*, 2020; *USA v. Google*, 2020).

Just as students at the primary and secondary level public schools have very little agency to “opt-out” of Google Workspace for Education once it is widely adopted (Krutka, Smits, & Wilhelm, 2021), college and university students also have limited capacity to challenge an individual instructor’s request. Such a situation has led Lindh and Nolin to ask the following question: “Why should the public school system force pupils to participate in the commodification of their digital labour and algorithmic identities?” (p. 660). Although these authors are looking specifically at (primary and secondary) public schools – their questions are just as relevant for students of higher education institutions.

Along with an increased reliance on LMSs and communication apps offered by Google, the COVID-19 pandemic also saw a dramatic increase in the use of video conferencing software. One corporate actor to benefit from the sudden need for synchronous video options for remote classrooms (and workspaces), of course, was Zoom Video Communications. The company saw its usage skyrocket during the pandemic. One statistic suggests that daily meeting participants went from 10 million in December 2019 (before the pandemic) to more than 300 million in April 2020 (Isaac, 2020). Another: the company gained more users in the first two months of 2020 (2.2 million) than it did for the entire year of 2019 (Novet, 2020). Of course, with the surge in popularity came criticism and some backlash. 2020 saw a few new words and phrases enter the pandemic-induced lexicon. “Zoom fatigue” was coined to describe the exhaustion many felt after spending multiple hours on video conferencing software at the height of the pandemic. Another, “Zoom bombing,” refers to the occurrence of an unwanted participant “crashing” a video-conferencing meeting and often sharing unwanted content (at times obscene or pornographic) on video and/or audio feeds.

In the context of education, Zoom and other video conferencing software (Google Meet was commonly used in public schools) have been critiqued on a number of issues. In terms of surveillance and extraction of user data, Zoom’s practices are similar to Google’s. The company takes full part in the surveillance capitalism economy. “Zoom’s privacy policy,” notes Grandinetti (2022), “like most others in the era of massive terms of service agreements — allows for ambiguous data collection and use practices” (n.p.). The policy further “allows the platform to share personal data with companies, organizations, and individuals outside of Zoom with consent (loosely defined), as well as with Zoom’s third-party partners” (Grandinetti, 2022, n.p.). Further, Zoom retains the right to “share personal data with actual or prospective acquirers, their representatives, and other relevant participants in, or during negotiations of, any sale, merger, acquisition, restructuring, or change in control involving all or a portion of Zoom’s business or assets, including in connection with bankruptcy or similar proceedings.” (Zoom, 2021, qtd. in Grandinetti, n.p.).

In addition to Zoom's policies for sharing user data with third parties, many have raised criticisms of the more direct violation of student/user privacy and the surveillant atmosphere created through contrasting user permissions. Educators using the software to replicate a face-to-face classroom dynamic, and under the guise of "remote" learning, often used Zoom to enforce participation and monitoring of students, attaching attendance grades to having video enabled for students. In addition to creating an atmosphere of surveillance, such a condition also exacerbated inequalities between students regarding their access to high-speed internet, living conditions at home, and overall access to technology. Surveys on student experiences with Zoom during the pandemic additionally found the following disadvantages: distractions, quality of interaction and feedback, poor education quality, and technical difficulties (Serhan, 2020).

While Zoom and Google Workspace for Education represents only a small slice of the "big tech" platforms turned to and increasingly relied on during the pandemic, our brief analysis is vital in a few ways. First, both corporate entities participate in a form of surveillance capitalism in which "the user is no longer an employee or customer, but instead reduced to a point of data extraction" (Grandinetti, 2022). The user, in this case, the student, becomes the product, and the customer(s) are often the third-party clients for which Google and/or Zoom serve the student's data. Such back-end transactions are eclipsed by impenetrable and often ignored terms of service (ToS), as well as the bait-and-switch related to what these companies are "selling" or "providing" (software applications or educational products). And while the more traditional LMSs certainly broker in "epistemic inequality," given that they provide instructors and administrators with data on students (that the students don't realize is being collected), big tech platforms take this epistemic inequality to the extreme end of the spectrum. While we are not suggesting that educators completely abandon these tools, we do recommend more criticality when discussing issues of privacy and surveillance with students, as well as exploring alternative platforms and projects. In the final section of this paper, we propose an alternative for online learning by engaging open educational resources and practices (OER, OEP) found in commons-based peer production (CBPP) initiatives such as those sponsored by the Wikimedia Foundation (e.g. Wikipedia).

## **Engaging Commons-Based Peer Production Communities**

On the one hand, datafication, automation, and even surveillance of online learning can lead to valuable insights – from tracking and predicting when students have problems to looking at overall trends within different courses or between instructors to offer suggestions for improvement. Trends that might not be visible from an individual perspective could become more apparent when seen more broadly, whether across multiple classes for a different student or at population trends to implement interventions (helping first-generation students, for example). Online-available content via LMSs can provide significant benefits for many students and, in one form or another, seems to be here to stay. On the other hand, the trend towards datafication and automation

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inevitably leads to more surveillance and can foster an impersonal, or even dehumanizing, approach to pedagogy. Treating students as data overlooks the importance of individual relationships, and students can become demoralized by repetitive tasks and assignments with no perceived relevance to their lives. LMSs aside, there's an inherent danger, furthermore, in continuing to use big tech platforms such as Zoom and Google Workspace for Education without critically engaging in the exploitative extraction and commodification of student (user) data.

It should go without saying that students these days are well-versed in recognizing busywork. Research suggests students can be demotivated (Dyment et al., 2020; Motz et al., 2021) by repetitive tasks, particularly when they do not see real-world applications for their classwork. Most undergraduate work is not only a weak simulacrum of academic work (as it is often disconnected from a larger conversation and peer-review process) but also significantly different from much of the student's experience outside of the classroom. Students are surrounded and connected by numerous forms of social media where they feel like they are contributing (at least in small ways) to a larger conversation, but students perceive much of schooling (particularly in online environments) to be busywork - another hoop to jump through on their way through life. This perception can be arduous and demoralizing for students who are already struggling (particularly with self-efficacy). As more and more courses are bound up in Blackboard, Moodle, Microsoft Teams, and other online tools, it remains a growing concern that students' experience with education is one of a conveyor-belt-style industrial warehouse. If social media has taught them anything, the interaction between individuals, even at a minor level, can be far more gratifying and engaging than cookie-cutter coursework with no perceived applications, and students who feel connected to their work often feel motivated, increasing self-efficacy (Seifert, 2004).

There are ways to combat this, of course. We recommend assignments that engage Commons-based Peer Production communities. Similar to "project-based" learning, which has long been hailed as the key to avoiding the pitfalls of "traditional" educational assignments (Kokotsaki et al., 2016; Lam et al., 2009), Commons-based Peer Production (CBPP) projects engage students with each other, with the teacher, and with the world. Over the past decade or so, research has suggested that particular types of public-facing projects, such as engaging students on Wikipedia, can offer additional benefits that inspire and motivate (Cummings, 2009; Patch, 2010; Kuhne and Creel, 2012; McDowell & Vetter, 2020; Sweeney, 2012, Tardy, 2010, Vetter, 2014, Vetter, McDowell & Stewart, 2019; Reilly, 2011). More recently, emerging research has also shown how Wikipedia-based assignments can increase self-efficacy among students (Kalaf-Hughes & Cravens, 2021; McDowell & Vetter, 2022). While there are many ways to engage students in a public-facing project, what makes the space of Wikipedia so unique is that it is a space *everyone knows*. It has long since surpassed and supplanted *Encyclopedia Britannica* as the standard repository of knowledge and wisdom, and despite the fact that it still suffers from certain omissions and systemic biases (McDowell & Vetter, 2021), it is an improvement over past encyclopedias due to the fact that it is 1) free and 2) invites contributors to edit and thus improve its pages. Because it is so well known, there is a perception of implied *whuffie* (social capital) in engaging with Wikipedia – bragging rights even. Similar to *followers*, *likes*, and *retweets*, students can track views, edits, and engagements with their created content. However, unlike social media, students quickly realize their work on Wikipedia is not ephemeral and will often have a long lifespan and evolution. More importantly, students learn this is not only a *public-facing* project, but Wikipedia

is a project for the *public good*, as it is free, open, and dedicated to the pursuit of providing knowledge.

Through Facebook, Instagram, Twitter, TikTok, Snapchat, and more, students are already interacting and exploring computer-mediated communication systems that engage them with diverse audiences, participatory creation, and remixing media, music, and writing. Instead of a traditional student-teacher surveillance relationship, CBPP projects, and in particular those based around Wikipedia (and its sister Wikimedia projects), can transform the educational economy towards a more engaged and participatory model that is digitally accessible yet completely distinct from models offered by traditional LMSs and big tech platforms. As Cummings notes, the Wikipedia assignment “dissolves those roles of writer, text, and audience,” much like the systems that students already participate in (Cummings, 2009, p. 14). However, unlike these social media platforms, participating in the commons through Wikipedia and other Wikimedia projects “represents an entirely new mode of economic production, distinguishing itself from both the market model of production and the firm model of production while retaining some aspects of both” (Cummings, 2009, p. 17). More recently, Yochai Benkler noted that “Wikipedia and commons-based peer production more generally continue to offer an existence proof that there can be another way” – an alternative to the more prevailing forces of surveillance capitalism that characterize the educational system, as well as the rest of the Internet (Benkler, 2020, p. 43). This alternative does not erase surveillance but instead helps to bring it back to a more manageable manner, balancing the needs of the student and teacher alike, and students realize this.

Motivation for students remains a critical factor in predicting long-term success. Students are overwhelmed, balancing multiple priorities at once in a post-Covid world with compounding ecological, social, and economic disasters. Ensuring that their schoolwork connects with them, excites them, and engages them in altruistic and authentic tasks can help inspire this motivation. This motivation can be furthered by a student’s ability to self-assess and to choose a topic in Wikipedia (or another CBPP project) that is self-motivating “since the individual can most accurately assess his or her own interests, and for what duration she or he will stay motivated to work with a project” (Cummings, 2009, p. 50).

Finally, it is essential to note that students are becoming increasingly aware of their own surveillance and the commodification of their lives. As Benkler notes, “awareness of surveillance capitalism is becoming clearer and the risk that a handful of companies will use massive amounts of data they collect on each of us to shape both commercial demand and political outcomes” (2020, p. 47). Students realize this, and when confronted with the increasingly high prices of education (especially in the U.S. but also Australia and other parts of the world) (Myers, 2015), noticing how their education is further commodified risks further alienating them (in both the Marxist sense as well as pure disillusionment with the education system, prompting demoralisation and lack of motivation).

Instead, we can turn to CBPP communities and open educational resources and practices like Wikipedia, which can provide a bridge over treacherous grounds. Benkler summarizes these benefits succinctly: “Wikipedia’s twin ideal characteristics—as nonmarket and nonhierarchical, a good-faith collaboration among people engaged with each other socially—mark it as the ideal anchor for an alternative way out after neoliberalism has run its course” (Benkler, 51). As big-tech

surveillance pervades everywhere else in our digital lives, we should be extraordinarily careful with our educational systems, and while the majority of the research on teaching with Wikipedia has been on writing and editing Wikipedia (Cummings, 2009; Di Lauro & Johnke, 2017; Hood, 2007; Konieczny, 2016; Patch, 2010; Vetter et al., 2019), we believe in extrapolating these takeaways from Wikipedia and CBPP to many assignments that follow similar guidelines in similar spaces.

Beyond Wikipedia, other “core-knowledge” projects under the Wikimedia umbrella offer CBPP spaces and communities for learning and contributing to open knowledge. Wikimedia Commons, for instance, as a media repository and digital commons archive, provides educators with a platform and community for teaching media literacy, copyright, metadata, and other digital literacy outcomes. Wikisource, another Wikimedia project, as a digital library of freely-licensed texts, provides OER in the form of textual content as well as OEP opportunities for engaging in the digitization of additional texts by participation in the community’s workflows. Similar to Wikimedia Commons, Wikisource offers opportunities for students to engage in authentic open educational practices targeting skills such as digitization, metadata, copyright, and professional editing in which students proofread, validate, and annotate a text in the public domain.

Outside of the Wikimedia movement, other open projects that engage in CBPP and are worthy of further exploration in education include the following:

- *Appropedia* ([www.appropedia.org](http://www.appropedia.org)), also a wiki but one that focuses on sharing knowledge related to environmental sustainability practices;
- *Distributed Proofreaders* ([www.pgdp.net](http://www.pgdp.net)), which works to convert published works in the public domain into e-texts;
- *OpenStreetMap* ([www.openstreetmap.org](http://www.openstreetmap.org)), a collaborative geographic database project,
- *Open Source Ecology* ([www.opensourceecology.org](http://www.opensourceecology.org)), which creates and shares open-source industrial designs, and others.

And although the term originated to describe digital initiatives, CBPP isn’t inherently about computer technology. Community gardens, little free libraries, food banks, and other forms of collective and cooperative projects can also be forms of CBPP, and can be undertaken in education to motivate student participants toward social engagement.

It’s important to note here that many teachers simply don’t have the choice to move away from institutionally adopted and programmatically enforced Edtech. And we’re not suggesting that this is a one-size-fits-all approach. Whatever our pedagogical agency in making these decisions, whether one can completely abandon the technology or try something new, the criticality of tech and empathy in the teacher-student relationship is always an option. The choices we make in constructing pedagogy indicate how we want to form a future with our students. Pedagogy is not just about teaching but instead about *leadership*, from the Greek *agōgos* (to lead), and we should remember this as instructors and administrators. Leadership has and always requires *some surveillance*, as one must build an understanding of those under our tutelage, assessing where they are and how we can get them to where they must be. However, we must turn towards the care of that information to assist, to teach, to inspire, and to lead students, not as a way to commodify, enclose, and control them. We seem to have fallen into the neoliberal pitfalls of big

technology - asking what *can* we do (and how it might save or make money), versus *what should* we *do* to help the students. We must choose our path wisely, paying attention to the spectrum of surveillance, and do so with care as those who carry our future depend on it.

### **Conflict of Interest**

The author(s) disclose that they have no actual or perceived conflicts of interest. The authors disclose that they have not received any funding for this manuscript beyond resourcing for academic time at their respective university.

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