The Tip of the Iceberg: Immaterial Labor, Technoskepticism and the Teaching Profession

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This paper reports an analysis of the work of teaching in the wake of the profound and swift transformation of the educational landscape due to the global crisis of Covid-19 as well as concrete suggestions for teachers and teacher educators related to the labor they are expected to perform. Ultimately, the aim of this article was to discuss how understanding the immaterial labor of teaching, the labor that creates value but is often intangible and unseen, can prepare teachers to recognize and possibly resist what might get counted as best practices in the new normal that is and is to come. The authors use the concept of immaterial labor to expand on and complement technoskepticism, a recognition that technology is not neutral and has exploitive and antidemocratic tendencies and, therefore, must be approached with appropriate caution.

In 2020 as schools began to reopen, in-person or online, after the Covid-19 pandemic-induced closures we noticed that our teacher friends were circulating a meme across social media. The meme showed an iceberg floating in the ocean. On the top, the text read "what the world sees teachers doing;" underwater, "what they're actually doing."

Playing on the "tip of the iceberg" metaphor, the meme brings awareness to the myriad of visible and largely invisible, or unnoticed, work done by teachers at all levels. The meme is a response to common misunderstandings about labor, in general, and teaching labor, specifically. Students, parents, and the general public are apt to believe that educators who are teaching virtually from their homes are not working, are working less, or are delivering a subpar, cheaper product and that those factors make them deserving of less pay.

In reality, educators are performing various forms of physical and intellectual labor that are simply unseen and, therefore, unacknowledged as work. What Covid-19 has made obvious is that this meme and the mindset to which it responds is a result of the misidentification and devaluation of work. It is also a result of the economic myth that the cost of a good or service lies in the cost of its materials, not in its labor. *Immaterial labor* (Lazzarato, 1996) provides a conceptual understanding needed to tackle these problems. Identifying and naming work is one of immaterial labor's most important contributions to the fields of education, social science, and technology.

This article reports an analysis of the work of teaching in the wake of the profound and swift transformation of the educational landscape due to the global crisis of Covid-19 as well as concrete suggestions for teachers and teacher educators related to the labor they are expected to perform. Ultimately, the aim of this article is to offer theory as a way to help educators make sense of, name, and possibly resist what is happening in the new normal (or abnormal) for both themselves and their students. We tie together immaterial labor and technoskepticism (Krutka et al., 2020), arguing that technoskpeticism is both a form of immaterial labor and a useful mechanism for identifying and naming it.

Drawing on our experiences and inquiries into our own teaching practices and the social theories that inform those inquiries, we highlight three ways immaterial labor is a useful conceptual tool and vocabulary word for social studies educators. Finally, we conclude with a few best practices, which we prefer to think of in its verb form: "best(ing) practices." That is, we do not advocate best practices in the usual sense but offer an insight and analysis into the practices themselves and how educators might best them.

Immaterial Labor

Labor has been chronically undervalued and undercompensated in the United States. Despite Americans' hard work and long hours, they face wage stagnation, precarity, higher costs of living, and reduced benefits. "The inherent value in hard work that Americans keep repeating can't be true with its shoddy history of fairly compensating those who are doing the hardest work and its lack of ability to provide redress for past grievances" (Shaye, 2014, para. 8).

In the midst of a pandemic, the flippant way politicians demand that people go [back] to work (Picchi, 2020) and the low wages paid to the most essential and most vulnerable workers are evidence that capitalists recognize the essential role of labor in creating value while simultaneously

refusing to compensate it appropriately (Adams, 2020). Underpaid customer service workers are "mediators between the customer's and the company's interests…. Therefore their interactive and emotional competencies become central to the company's market success" (Carls, 2007, p. 47).

The face, that which is most valuable to the company, is what is most vulnerable to both disease and downsize. Despite record profits for billionaires like Jeff Bezos, workers are sent out to be sacrificed on the altar of capitalism when "the hazard continues, but the hazard pay does not" (Kinder et al., 2020).

Our unique contribution to the ongoing conversation about distance learning, online education, at-home work, and "technoskeptical scholarship" (Krutka et al., 2020) is an explanation of the immaterial "labor that produces the informational and cultural content of the commodity" (Lazzarato, 2016, p. 78). Immaterial labor offers educators a name for the many "activities that are not normally recognized as work" (p. 78) that nonetheless exhaust minds and bodies while creating economic and social value.

Lazzarato (2016) located immaterial labor in a post-1970s change in labor and work relations, which saw the breaking down of once (seemingly) stable hierarchies, routines and expectations and a movement toward a more rhizomatic, or horizontally oriented model that emphasized work that was more intellectual, mobile, and autonomous. In this system, the factory, home, and market were integrated like never before. Nowadays, Lazzarato asserted, workers are expected to be much more independent, free thinking, emotionally invested and entrepreneurial:

Capital wants a situation where command resides within the subject him-or-herself, and within the communicative process. The worker is to be responsible for his or her own control and motivation within the work group without a foreman needing to intervene. (p. 80)

This mechanism is effective and cost-efficient for achieving maximum worker effort and assumption of risk with minimal use of overt force or employer outlay. For more information about immaterial labor, see our video on the concept (Adams, Wurzburg et al., 2020).

Video 1 Three Minute Theory: What Is Immaterial Labor?

https://www.youtube.com/watch?v=LL0_9WkpS9g&ab_channel=Three MinuteTheory

Neoliberalism, "the retreat of social welfare programs matched by an increase of social control policies" (Weiss, 2007, p. 49) is the more familiar name for the kind of life-work arrangements in which immaterial labor thrives. Although a full discussion of neoliberalism is beyond the scope of this paper, it is worth noting a great deal of overlap, as Lazzarato was giving a name to a 1980s convergence between the feminist movement and neoliberalism, which resulted in a decrease in both wages and job security

(Schmeichel, 2011) and made government oversight and safety nets the enemy (Zuboff, 2019).

(Immaterial) Labor and Social Studies Education

Labor, work, employment and other related terms (e.g., labor unions, wages, and fair pay) are integral topics of study in social studies. These topics can be found in the National Council for the Social Studies' (NCSS, 2013) *College, Career and Civic Life (C3) Framework* economics standards as well as in content standards for many states.

For example, by the end of eighth grade students should "explain the roles of buyers and sellers in product, labor, and financial markets**"** (NCSS, p. 37) and describe the role of labor unions within a market economy. By the end of fifth grade, students should be able to explain unemployment (p. 38). By kindergarten they should be able to explain how people earn income, which suggests work and employment but does not state it outright. The nondescriptive phrases "costs of production" and "products that are produced and sold abroad" (p. 39) are used instead of work or labor. While on the one hand these terms do not give a full picture of the labor involved in production, on the other, this lack specificity speaks to immaterial labor and provides openings to discuss it.

Revisiting the traditional definition of what *counts* as labor and employment, however, is crucial. As asserted in this paper, labor is not only something sold on the market through mechanisms of supply and demand. Similarly, employment and unemployment are indicators of salaried work, not the presence or absence of work, as the glossary suggests (NCSS, 2013, p. 112).

The C3 framework does not define labor, work, or job in its glossary of key terms, although these terms appear in other terms' entries in the glossary. One may infer that labor and work are not defined because the authors assumed their meaning is obvious. We do not claim that work and labor are absent from the C3 Framework. On the contrary, labor and work are all over the document in various ways. In addition to economics standards, work and labor show up most often in Civics standards and in the "taking civic action" segment of the inquiry arc: "Collaborative efforts may range from teaming up to work on a group project presentation with classmates to actual work on a local issue" (NCSS, 2013, p. 59). There are long descriptions of the collaborative effort to write the Framework. Finally, the language of work and labor shows up in the Framework's emphasis on students developing skills "crucial to success in the twenty-first century workplace" (p. 19).

Within the context of current social studies education and the Framework, it becomes possible to imagine that words like collaborate and work (e.g., student work) are used so frequently that many students and educators do not stop to think about them. As such, one may easily forget that these are actually types of labor – labor that is often uncompensated and unrecognized.

Collaboration can be both exploited by and challenging to America's focus on individual effort and success. For example, collaboration is encouraged in education discourse, yet it is seemingly at odds in a society that is based on individual compensation. Collaboration is valued by capitalism for its ability to generate value while at the same time anonymizing effort, so that "it becomes increasingly impossible to ascribe a product to the contribution of an individual worker" (Nunes, 2007, p. 185). Thus, some say that ascribing monetary value to, and thus compensating, immaterial labor is impossible.

In economics education, labor and economic activity have traditionally been conceptualized as happening in the market or in the household. In high school economics, this framing is best represented by the circular flow model (see The Economic Lowdown Video Series at https://www.stlouisfed.org/education/economic-lowdown-video-series/episode-6-circular-flow). However, Banks (2020) pointed out that limiting labor to these two arenas leaves out the community and community organizing, which is a major site of unpaid labor by Black and other racialized women. Extending the economic realm to the community "make[s] visible ... and ... assign[s] value to the nonmarket work" that "racialized and marginalized women often perform" (p. 357). This labor is unpaid but deemed a necessary counterbalance to the private and public sector's continual disinvestment in those communities.

Banks' (2020) analysis not only serves as scholarship that elevates and interrogates forms of labor, but also points to new ways teachers can conceptualize community investment and activism in their classrooms. For example, when young people engage in civic activism by using hashtags like #NeverAgainMSD, they are performing public work, using hashtags to carve out a space of resistance "by openly snarling at the 'our thoughts and prayers are with you' auto-response of politicians and media personalities'' (Abowitz & Mamlok, 2019, p. 168). In this way acts that may appear to be purely civic can also be thought of as labor. Seeing movements as *only* political results in "overlooking ... activism as actual 'work' that maintains and reproduces material life" (Banks, 2020, p. 349).

Social studies educators can point to past and current examples of community immaterial labor and resulting economic value. The organized protests in summer 2020 and voter registration efforts for the 2020 election by Stacey Abrams and Fair Fight are more recent examples of uncompensated, immaterial labor. Of course, this kind of community and political organizing is hardly new. (See "Stacey Abrams's success in Georgia builds on generations of Black women's organizing," Brown & Reed, 2020). The Women's Political Council that organized the Montgomery Bus Boycott, Fannie Lou Hamer and the National Women's Political Caucus, the Combahee River Collective, and activism and organizing by Lily Chin, Dolores Huerta and Luisa Morena are just a few examples social studies teachers might draw on.

The Immaterial Labor of Teaching

As teacher educators, former and current middle and elementary school teachers, a parent to a toddler and an adolescent, and a daughter and sister to current teachers, we are navigating what has been called "Covid

schooling" (Hughes & Jones, 2020). Covid schooling can be understood as, simply "teaching and learning in Covid-19" (para. 5).

One of the many things Covid-19 and Covid schooling have revealed is the immaterial side of labor and the enormity of what must be invested (often behind the scenes) physically, intellectually, and emotionally by educators. Immaterial labor often manifests in small, unseen ways.

For example, at our respective ages, we are part of the "sandwich generation" (Parker & Patten, 2013) responsible for raising children and caring for aging parents at the same time. Younger persons generally must help parents with technology, but this task is complicated further by a pandemic that makes in-person help impossible. For example, one of the authors had to help her mother, a teacher in another state, navigate digital platforms, teaching her to take screenshots and send files to her students through text message. Again, this is work that largely goes unseen and unaccounted for.

In the following sections, we highlight our method of inquiry as well as the framing concepts onto which we build our work. This paper can add nuance to a well-known and well-worn concept in education, Lortie's (1975) "apprenticeship of observation" and the much newer concept *technoskepticism*. We put these two concepts in conversation with Lazzarato's (1996) "immaterial labor." We hope this article will help social studies educators be able to point to examples of immaterial labor in their economics, geography, civics, and history courses.

Apprenticeship of Observation and the Unseen

Because most adults were once children in school and have spent many years observing teachers on a daily basis, they tend to think they know, and can speak with authority about, the job of teaching. Yet, what students see is only the performance not the pedagogy (Lortie, 1975). This narrow view is due, in large part, to the *apprenticeship of observation* that results from the "sixteen continuous years of contact with teachers and professors" that students have (p. 61). This "protracted face-to-face and consequential" (p. 61) interaction with established teachers privileges the seen rather than the unseen.

Because of this phenomenon, people are apt to believe that teachers are only working when they are standing in front of students or present (physically or virtually) in a classroom setting. If students are apprenticed into what they see and experience, the opposite occurs for what is unseen and not directly experienced. People do not see, and therefore do not often recognize, the intellectual and emotional labor exerted in thinking about and reflecting on practice, engaging in conversations with other educators, grading, and caring for students. Unseen are the hours spent seeking out and preparing lessons, learning new approaches, putting content online and providing students with meaningful feedback – all of which takes even longer virtually.

The public can be similarly misinformed about what professors do. Undergraduates often do not see professors engaged in acts of professional

service and the research and writing that is done alone in offices or laboratories, even more so during the pandemic. This kind of misunderstanding and misidentification of labor explains why a family member could comment that the first author must have a "part-time" job because she only taught classes 1 or 2 days per week. Yet she, like many professors, works well above 40 hours per week.

In higher education, there is a well-known, gendered "leaky pipeline" that accounts for disproportionalities in the professorial rank. The Social Sciences Feminist Network Research Interest Group (2017) found that women from marginalized groups paid a "cultural tax" as part of their "invisible work of academia" (p. 228). Service and mentoring, for example, take time away from the research obligations necessary for promotion. Work on universities' diversity-related initiatives and the recruitment and retention of students provide tangible economic value and is essential for the institution's functioning. They found that "marginalized faculty who did make it through the leaky pipeline to the rank of full professor still ended up doing more than two times the amount of teaching than their non-marginalized counterparts" (p. 240). The authors suggested that "developing systems that link such labor with its economic value can validate faculty work and render this labor more visible" (p. 241; see also Canton, 2013; Daniel, 2019; Matthew, 2016; Pratt, 2020).

Shields

Unseen, uncompensated emotional labor has been all too familiar to educators of color, who are all too often expected to provide services freely to students and staff while living with trauma brought on by racial violence, murder, global pandemic, democratic disenfranchisement, and harsh economic disparities. For example, Duncan (2019, 2020) demonstrated how Black teachers, in addition to doing the job they are paid to do, feel compelled to act as "shields" for Black students in their schools. The teachers helped students "navigate systems of white supremacy" when the teachers "believed they were least likely to be subjected to surveillance at the hands of school administrators or receive resistance from their white colleagues" (Duncan, 2020, p. 12; see also Hidalgo, 2011). This aspect of the work of teaching was largely unaddressed in teacher education programs, which signals another way such work is hidden or unseen and, therefore, unaccounted for.

These are all forms of immaterial labor – value-producing work that is not recognized or compensated as such. These understandings of labor are crucial for myriad reasons, including equitable compensation and reasonable workload expectations.

Technoskepticism

In their recent editorial in this journal "Technology Won't Save Us – A call for Technoskepticism," Krutka et al. (2020) suggested that technology is often touted as a solution for the 21st-century problems it has had a hand in creating or exacerbating. For example, the Internet and social media has lent itself to the proliferation of misinformation and deep fakes, contributing to crises of democracy.

Technoskepticism is about being aware of the use and impact of technology and its effects on society (see https://thetechnoskeptic.com). When they use a technoskeptical approach, "teacher educators and scholars direct their attention to the downsides, constraints, or cultural characteristics that technologies extend, amplify or create" (Krutka et al., p. 111). Only after they have engaged in this informed critique should educators consider the benefits of technology.

With, About, Among

Prepositions express positionality. Whereas technology education and scholarship has typically centered on teaching *with* technology, Krutka et al. (2020) proposed that "social studies offers an opportunity to also teach *about* technologies and their disparate and inconspicuous effects on democracy — within and beyond schools" (p. 109). The move from learning *with* to *about* is one of technoskepticism's major contributions to the field of social studies and technology education.

We wish to contribute another subject position, *among*. That is, what does it mean to be in the company of, or a member of, technology? We take up Coté and Pybus' (2007) articulation of this question: "Our inquiry regards how we 'work' amidst our myriad interfaces with Information and Communication Technology (ICT); and how the digital construction of our subjectivity within such social networks is a constitutive practice of immaterial labour 2.0" (p. 89).

This inquiry is important, given that human contact (interface) is mediated through screens and keystrokes and that separating the human from technology is becoming increasingly difficult. *Among* recognizes that "we are moving into a new a-whereness" (Thrift, 2008, p. 166) and the subsequent constraints and affordances offered by this condition and positionality.

Crucially, *among* contributes to the notion of digital citizenship and technology integration. As we show in the following sections, teachers and students are already digital citizens who are already integrated into technology. They do not only use technology but are used by it. They do not simply integrate technology but are already integrated with, whether they recognize it or not. This integration is part of a larger system of organizing society called a control society.

Control Societies

Technologies are not neutral and "neither are the societies into which they are introduced" (Krutka et al., 2020, p. 111). This society is a highly technological *society of control* as opposed to a more analog "disciplinary society" (Deleuze, 1992; Kerr et al., 2015).

Video 2   Three Minute Theory: What Are Societies of Control*?*

https://www.youtube.com/watch?v=0nZ1U4jKJdk

Control, or neoliberal, societies advance a discourse of freedom, mobility, and autonomy. Although these elements sound liberating and democratizing, technology creates new mechanisms to control workers, exploit labor, and limit privacy.

For example, Smartphones have allowed people to engage in work, leisure, and entertainment by untethering, or freeing, them from cords, buildings, and operating hours. Yet, Smartphones collect data, invade privacy, leave a trace, and create the expectation that people will be available for communication and work at all hours of the day and night, normalizing "a duty to be available all the time, while only getting paid for the hours one actually works" (Lazzarato, 2018, p. 140). Work in control societies is exemplified by immaterial labor.

Technoskepticism and Labor

Technoskpeticism lends itself to examination of digital labor and its economic, as well as civic, impact. Although labor was not specifically identified by the originators of the term as an area of inequality or concern, teachers and teacher educators must interrogate the ways technologies and labor intersect. The overall push for technology in schools and teaching coupled with Covid-19 has made teachers part of the "digital workforce" (Scholz, 2013, p. 1) which comes with its own set of labor equity issues, such as precarity. The "hyper-precariousness of web-based work" has led to the "intensification of traditional economies of unpaid work" (p. 1). In subsequent sections we describe how "each rollout of online tools has offered ever more ingenious ways of extracting cheaper, discount work from users and participants" (Ross, 2013, p. 15).

Influencers and Edupreneurs

The Internet offers opportunities for crowdsourcing and new markets for teacher-preneurs to sell their goods to other teachers. However, recent studies have interrogated and exposed the numerous issues with content in the lessons found on Pinterest and Teachers Pay Teachers (Gallagher et al., 2019; Pittard, 2017; Rodríguez et al., 2020; Schroder et al., 2019; Shelton et al., 2020).

Because of the sheer quantity and suspect quality of these resources, teachers must learn to evaluate resources critically before giving them to students. Evaluating lessons and resources is immaterial labor. Critical educators, the kind we want teaching our children, are performing an added layer of labor when they evaluate resources and rate products. Thus, the web's openness, accessibility and lack of red tape is part of both its appeal and problem.

Free Technology/Labor

Technoskeptical critiques are critical for interrogating the extractive nature of the immaterial labor necessary to maintain the Internet, which "depends on massive amounts of labor... only some of which is hyper compensated by the capricious logic of venture capitalism" (Terranova, 2000, p. 48). Coding is a high-status, highly compensated, masculine-

associated profession. However, chatting, engaging in communication, and overall contributing content that attracts users is lower status and not recognized as value-creation and often not formally compensated.

Think about it this way: It does little good to write programs unless you have people using them and giving them meaning. The Internet was built from free labor and, in turn, facilitates a whole host of participatory, capital-generating schemes. For example, in the early days of the Internet, AOL was built largely from free labor and contributors, even as the company was generating $7 million per month in 1996 (Terranova, 2000, p. 49).

Huffington Post got its start by relying on unpaid bloggers for its content, which it justified as a democratizing practice. By 2011, Huffington Post was acquired by AOL for $315 million; a value built on largely unpaid labor (Spangler, 2018). Not only was this blogging labor exploitive and yet clearly creating value for the paper's owner, the content was prone to inaccuracies due to lack of editorial review, which then spread misinformation and harmed democracy in the name of a democratizing practice.

YouTube and its media sponsors make money off of its amateur content creators and viewers (Bakioğlu, 2016), "taking a free ride on the creative content of billions of content creators" (Vaidhyanathan, 2011, p. 30; see also Coates et al., 2020) and in a way "music, fashion, and information are all produced collectively but are selectively compensated" (Terranova, 2000, p. 42). Schmeichel et al. (2020), for example, analyzed how women in the Southern U.S. engaged in a public pedagogy of cultural reproduction through selfies on Instagram that is part of a larger neoliberal discourse of self-promotion.

Although a few particularly influential influencers may get rich from YouTube, Instagram, and other online promotional platforms, they do so from the countless hours ordinary people put in viewing and creating content. Children's attachment to online personalities makes them easy targets for advertising. Studies show that children need help understanding the gravity of online videos' selling, or persuasive, intent and that the more investment and trust they have in favorite online personalities, the harder these messages are to distinguish (Boerman & van Reijmersdal, 2020, p. 10). Children must be taught to be technoskeptics because these exploitative tactics are not intuitive to them.

CAPTCHAs, those codes we enter to prove we are human and not bots, are another way the Internet gets us to (sometimes unknowingly) perform immaterial labor. Entering CAPTCHAs are a way to extract free labor from people, "CAPTCHA solvers unwittingly work for free by performing routine tasks that computers cannot execute automatically, like digitizing books and labeling online images" (Foley, 2014, p. 372). Some of these digitizing projects include translating older, machine-unreadable texts for the Google Books project and the *New York Times*. Even if people know how these Captcha systems work, they are still unable to bypass them to access the desired content.

Finally, programs like Dropbox and Evernote that assist users with multidevice storage and file organization get free advertising through users' "product evangelizing," which is a form of "growth hacking" (Tibrewal, 2015). Dropbox, for example, "spent very little on advertising, yet it is worth $4 billion" (Patel, 2021), which it made through growth hacking. Users receive extra storage for recruiting other users, for example, or by Tweeting at the company.

Dropbox and Evernote also incentivized users to increase the amount of content they added. Presumably, Evernote, like Google, can aggregate data and trends from its users' inputs. It knows what people are looking at, what they keep and discard, how they connect or link up pieces of information. Entering content also helps these smart programs get smarter as they learn more and more about their human handlers.

Although programmers created the platform, that platform is useless without the users who enter and add content that gives it value. Just by our mentioning the names of these billion-dollar tech companies, this paper provides them with free advertising. This fact also speaks to the power and complexity of immaterial labor.

These programs are so successful because they are so covert. Google, YouTube, blogging, growth hacking, product evangelizing, and CAPTCHAs provide popular everyday cases social studies teachers can use in their classrooms with students as an entrypoint for studying labor and engaging in technoskeptical critique.

Extraction

"The 'raw material' of immaterial labor is subjectivity" (Lazzarato, 2016, p. 85) and that subjectivity can be both capitalized on and extracted (through surveillance) as information. In digital markets,

control of new productive resources is concentrated in the hands of the few, allowing them to appropriate and profit from the activity of the many who must surrender their personal information to secure access to the productive and informational resources of the digital era (Andrejeveic, 2013, p. 155).

Google developed mechanisms for turning people's nonmarket activity (e.g., web searching) into opportunities for marketing to us, a strategy that has been emulated by others such as Facebook (Zuboff, 2019). As surveillance increasingly infiltrates people's lives, Lyon (2020) warned, "it is the market and not the state that holds the cards in the surveillance game" (para. 12).

As articulated in a viral twitter comment, "If you're not paying for something, you're not the customer, you're the product being sold" (Ross, 2013, p. 18). Zuboff (2019) took this sentiment a step further, arguing that users are not a product, per se, but "the objects of a technologically advanced ... material-extraction operation" (p. 10). That is, users are the raw materials sold to others for packaging and distribution (or redistribution; see Sassen, 2018).

Google's primary product is not a search engine but advertising (Vaidhyanathan, 2011). Google is extremely successful at "giving" users "web searching, email, YouTube videos and, in return, we give it *us* "our fancies, our fetishes, predilections and preferences. When we use Google to find out things on the Web, Google uses our Web searches to find out things about us" (p. 3).

The general public likely knows little about programs like Google or Facebook, even if Google and Facebook know a whole lot about them. Companies like Amazon use these technologies to surveil their employees to sniff out union organizing (Canales, 2020). In short, online searches could be considered a form of value-producing labor that people are not only not aware of, but freely supplying (e.g., Instagram selfies). The Wages for Facebook webpage (http://wagesforfacebook.com) makes the value of collective immaterial labor clear in the opening lines of its manifesto: "They say it's friendship, we say it's unwaged work."

Pandemics have a history of facilitating developments in surveillance technologies (see Foucault, 1977). The Covid-19 pandemic will only intensify these current trends toward digital labor surveillance consumption (Muro, et al., 2020; Shenker, 2020). While surveillance of college students was an issue before the Covid-19 pandemic (Barshay & Aslanian, 2019), it has increased to maintain control of the university classroom, even in a distance learning model.

Companies like ProctorU have been deployed to ensure honest test-taking practices, but in doing so collect and control an enormous amount of student data through facilitating online exam-taking (Lawson, 2020). The racialized algorithms of surveillance technologies are particularly problematic (Benjamin, 2019; Browne, 2015; Hendrix et al., 2018; Nance, 2013; Rummler, 2019).

Recently Geofeedia "worked with police in Boston to use GPS and facial recognition to identify protesters using the #BlackLivesMatter hashtag" (Fussell, 2020). This example is one of many "marketing and marking black people as commodities, as sellable, as objects" (Browne, 2015, quoted in Fussell, 2020).

Amidst the ever-growing presence of online immaterial labor, discussions about surveillance in the workplace and college must be included in college-and-career conversations in school and embedded in social studies curriculum. If the goal of social studies education is to "help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world" (NCSS, n.d.) then knowledge about labor in its various forms as well as its exploitation is crucial.

Three Uses for Immaterial Labor in Education

Capitalism, and its ability to take an immaterial form, are largely supported by women's unpaid and unrecognized domestic labor, which compensates for the state's shortcomings in providing adequate care for its citizens (Del Re, 1996). Masculine understandings of work have always

undervalued immaterial labor, particularly the economic and cultural contributions of women (Terranova, 2000), who make up the bulk of teachers and work the second shifts of at-home labor (Dugan & Barnes-Farrell, 2020) and kinwork (di Leonardo, 1987). This situation is not unique to the 2020 pandemic, because "in the formulation of any social policy, women are always expected to do their domestic duties" (Del Re, 1996, p. 101).

In the following sections, we describe ways the concept immaterial labor can be useful for theorizing immaterial education. We acknowledge that Lazzarato (1996), like many labor theorists, used a masculine, middle- and working-class conception of labor. As such, he considered immaterial labor to be a new phenomenon, not recognizing that feminized labor has always "made a mockery of a limited workday" (Haraway, 1991, p. 166).

In response to Lazzarato's account of labor, "most academic feminists from across the social sciences would throw up their arms in protest against this kind of class-dominated and gender-essentialist account of the changing world of work" (McRobbie, 2011, p. 65). Women have always been expected to invest emotionally in their work and have always experienced precarity in ways that men are just beginning to experience. While Lazzarato's analyses and "immaterial labor" are helpful, we deploy it in this paper through feminist lens.

One: Work and its Worth

To value labor it must first be recognized and named. Technoskepticism and a feminist view of immaterial labor can be used to interrogate media reports of unemployment and job losses. Even before Covid, women spent an average 48 more minutes per day performing house labor than men. Covid-19, while leading to a mass layoff of material labor force, has exponentially increased immaterial jobs.

Hearing about job losses and unemployment, immaterial labor reminds us that, while paid employment and legally defined jobs' might be lost, we nonetheless have plenty of labor to go around. For many, salaries have been lost but jobs have not. Children must still be taught, and parents find themselves serving as unpaid paraprofessionals. Homes must still be maintained, groceries bought and meals prepared. Home must be recognized as a legitimate site of labor in social studies education and in society at large (Adams, 2018a). That homes are not recognized is indicative of larger conceptions of gender and labor.

A viral Tweet (Reulet, 2020) sums up the ways teachers recognize the value of their labor and lack of compensation: "The entire education system is built on unpaid teacher overtime."

As Covid is making apparent, not only the entire education system, but the entire economic system, is built on unpaid teacher time, including overtime. The numerous calls to return to in-person schooling and for teachers to take on even more emotional and web-based labor than before speaks to this sentiment (see McLoud, 2019). In fact, a recent ruling by the U.S. Department of Labor exempts teaching of any sort from overtime

compensation, with the official reason being that "teachers from K-12 through higher ed would receive … professional wages commensurate with the educational preparation, responsibility and workload that this important occupation requires" (Maisto, 2018, as quoted by Flaherty, 2018). As Maria Maisto, an adjunct advocate, put it, the ruling has become one of the education's "most reliable tools of exploitation, ensuring instead that faculty can be legally denied a living wage" (para. 23).

Multiple reports have been made from women regarding the exhaustion wrought by trying to simultaneously attend to the online teaching work they are being required (and paid) to do while learning new platforms and caring for their own homes and children. These reports have led some to suggest that Covid-19 has dealt a blow to feminism and its gains (Lewis, 2020) and that women professors are submitting fewer papers since Covid-19 (Kitchner, 2020).

Unless educators document their labor, invisible labor will remain invisible. For example, we showed our work by writing an article (Adams, Kerr, et al., 2020) that demonstrates how much uncredited, hidden, collaborative work we invested in making the *Societies of Control* video (Video 2), but that does not normally count as productive scholarship. In this way, we exposed the actual amount of thinking and many pages (16) of writing it took to write a script that in the end was only about two pages long. In turn, we hope that teachers will recognize their students' immaterial labor and the many ways students might be doing work in its various manifestations. These manifestations are described in the following two sections.

Two: Investments and Participatory Management

Even before the Covid crisis, educational discourse was full of the language of ownership and participation. The worker is expected to be more autonomous, work at a higher intellectual level, and make investments into the system in which they are integrated. Workers are expected to give over more of themselves (without compensation) through "participative management" (Lazzarato, 2016, p. 79), which is defined as the "degree to which a member takes pride in his/her job and feels a personal responsibility for the outcome of the work" (Smallwood, 1991, p. 1).

These measures, far from making the worker feel alienated from their work and the factors of production, fully integrate them through cooperation and by getting them to invest their subjectivity and assume risk. Neither party really owns what they produce. They give it over to others, creating value while also assuming the bulk of emotional risk and reaping little to no monetary reward.

Today, many workers are "allowed to act more autonomously in the workplace and have a greater decision-making capacity" (Lazzarato, 2015, p. 64). While this autonomy may feel freeing, and it is, it also means assuming greater risk and responsibility without due compensation (mirroring the kind of domestic-sphere decision-making women have always done). In educational settings, students and teachers are to "take

ownership" of curriculum and teaching mandates they have little say in or control over, creating a small sense, but not actualization of, agency.

Consider the various ways teachers and students are asked to "take responsibility" or "own" their problems, solutions, learning and (professional) development. As faculty members, we have been asked to "own solutions" and "own processes," yet such imperatives are, curiously, always accompanied by work assignments. Similarly, teachers ask students to "own" their learning in the name of "student-centered instruction" and may ask them to teach themselves and others the content.

While this approach might seem empowering, it can also seem like deputizing teaching responsibilities to (unpaid) students and to technology. Teachers sometimes must rely on these tactics because of the sheer enormity of what is expected of 21st-century schools. In the end, the issue is not owning but *Own-ership*, investing what is, or once was, one's own into production, making what was once individual *dividual*, that is, part of the mass or the database (Adams, 2019).

Teachers interact with multiple interfaces. During the pandemic, this might mean simultaneously managing face-to-face and online instruction. This balancing act requires twice the amount of troubleshooting and, thus, even more intellectual labor than ever before. Figure 1 is probably a familiar scene for many. It is the virtual, at-home workspace of the first author's sister, who is a middle school teacher in Florida. Four screens are employed to teach synchronous lessons.

Figure 1 A Teacher's Home-Work Space

In their multi-interface teaching responsibilities, teachers must engage in a multitude of troubleshooting that, again, requires a higher plane of intellectual engagement and engagement. Other investments are both emotional and material. Teachers are expected to love children and their work, and children are expected to do work to do what they love. Consider the material investments as well: computers, electricity, and Internet access teachers are paying for to do the work that allows everyone else to do theirs.

Three: Content Creation-Immaterial Labor 2.0

Content creation is one form of immaterial labor. In online platforms, students and teachers do the work, that is, input the data and act as users, that make online programs meaningful and valuable. Consumption is thus rerouted as production in what can be called "productive consumption" (Lazzarato, 2016, p. 83).

In a study of teachers' hashtags from mid-March to mid-April regarding at-home learning in response to Covid, researchers noted the "sheer volume of tweets" using the hashtags #RemoteTeaching and #RemoteLearning "dwarfed many other established hashtags on Twitter that regularly deal with technology and teaching" (Trust et al., 2020, p. 152). Again, this proliferation speaks to ways teachers create content and perform immaterial labor to do the work they are paid to do. This tweeting was indeed likely "supporting educators' cognitive growth with resources and ideas" and a way of "meeting educators' affective and social needs" (p. 156). Teachers performing labor through online communication and community-building activities, however, creates value for Twitter.

Immaterial labor coupled with technoskepticism can help teachers be attentive to the various ways students also "do work" at and for school in ways not usually coded as work. Teachers tend to think of student work as an assignment. However, teachers must consider what information students are asked to give away, what content they are being asked to create, and what data is being collected about them when using free educational programs – especially those used in times of pandemic-driven virtual learning (Pybus, 2011).

The examples of immaterial labor and technoskepticism naturally lend themselves to social studies instruction. For example, just as schools teach students about finding meaningful and gainful employment, they should also teach them how to identify work and know what it is worth. The examples provided here challenge the usual conceptions of "producers and consumers" used in economics lessons. These terms are not dichotomous, but increasingly blurred and intertwined.

A Google search, for example, is both an act of consumption and production. The same goes for watching or creating a YouTube video or any other web content. Consumption can even be a profession. Professional consumers, or prosumers, are "significantly impacting the success or failure of companies, products, and brands, particularly through their involvement on the social web" (Gunelius & Hedges, 2010, para. 3). Thus, teachers can help students realize the power of their advocacy (or criticism) to make or break products. These examples are ways teachers can foster the "active and engaged citizens who are able to assess the burdens and benefits of technology" that are so critical to informed democratic citizenship (Krutka, 2018, p. 290).

Conclusion: Refusing Work

While teachers and students alike have always had at-home work to do, 2020 has seen an unprecedented blurring of the lines between home,

work, and school. One of the many things Covid-19 has revealed is the physical, intellectual and emotional labor teachers invest in their work on a daily basis. This labor is compounded when we remember that the majority of teachers are women, for whom work in the home is hardly new. These often unquantifiable and unseen aspects of the job can be understood as immaterial labor. Understanding this labor "helps us understand the elision between producer and consumer, author and audience" (Coté & Pybus, 2007, pp. 103). In the following sections, we articulate tactics for putting technoskepticism into action.

Resistance and Refusal

Lazzarato's (2015) proposed resistance strategy is "refusal of work" (p. 248) which we might think of not as a shutdown but as a shut-off that reestablishes the blurred boundaries between work and home, work and leisure that characterizes immaterial labor. Refusal may also be more effective than outright resistance because capitalism prefers resistance, which is more material and can be negotiated (Grande, 2018).

Immaterial refusals, instead of material resistances, may be the key to making change. Shaye (2014) pointed to refusal of work as a way to protest "the ethic of work in this country [that] is far from ethical" (para. 8). It is a resistance strategy employed by Black women, who rather than laboring to uphold an illusion, "are laboring to accumulate Blackness as the idea of a critical culture and share it amongst each other" to refuse "the political economy of misery" (para. 19). Again, recognizing this tactic can be a way for teachers to point to the various forms or labor, and refusals of it, that permeate and yet go unrecognized in America's past and present.

Because "power becomes increasingly more invested in the minute details of our lives," resistances must "become increasingly subtle and intense" (Nealon & Giroux, 2012, p. 225). The only resistance most people may be able to manage are small but meaningful. Just as we have shown that labor might not always look like labor, resistance may not always look like resistance. Here is an example of refusing to engage in participatory management. A climate survey of employees reveals a morale and overwork problem. The organization asks employees to fill out a survey to get more information about feeling overworked. Then, the organization forms focus groups and employee-led committees to study the problem and come up with solutions.

Crucially, this solution is palatable because it comes from the employees' peers (they have "owned" it) and is, therefore, deemed to be democratic. An employee might refuse to fill out the surveys or participate in the focus groups because doing so dignifies and legitimates the idea that the solution to the problem of overwork is more work and that employees should be tasked with solving a problem their more highly compensated bosses created. Instead, she might use that time to go to the gym and engage in other activities that bring her joy and satisfaction.

Reassessment

Social media, online spaces, Zoom, and other programs are crucial for community building. However, they can be both sites of resistance and a way to subsume users into a "shared subjectivity" that "enforce[s] the moral order" (Abowitz, 2000, p. 900). Since we live among technologies that are largely inescapable,

> social life itself appears in the productive cycle of immaterial labour… [but] the concerted effort to turn these social relations into capital relations does not negate the affect expressed [n]or does it limit the radical potential of the dynamic of affinity. (Nunes, 2007, p. 185)

These programs are neither good or bad. We use these programs. We are among them and of them. Our own subjectivity is operationalized through technology, and completely disengaging from technology and immaterial labor is difficult. The fact that social media and other programs can be exploitive does not negate the real experiences people have and does not negate their potential for activism and change.

Employing technoskepticism does not necessarily mean getting off Twitter or Zoom or considering any connections made online to be somehow less authentic or meaningful. Instead, "we need to better understand the ways our lives are suffused with immaterial labor" (Coté & Pybus, 2007, p. 103) to be informed consumers and producers of (and by) these products. "Mindful tech" strategies can help teachers and students reassess their relationships to technology (Levy, 2016a). One activity, "Observing Email" asks users to log their use of email, attending to their feelings and noticing patterns. This personalized information then helps with setting parameters for use (Levy, 2016b). Identifying immaterial labor and engaging students in technoskepticism and mindful tech are a few ways social studies educators fulfill their imperative to develop and prepare informed citizens.

La Perruque

Ross and Vinson (2017) interrogated forms of oppression in social studies teachers' working conditions such as censored speech, banned books and content, anti-union stances, calling for "dangerous citizenship" a "praxis inspired mindset of opposition and resistance, an acceptance of a certain strategic and tactical stance" (p. 50). Resistance requires creative thinking. To resist through compliance, a teacher could subvert the school's mandatory homework policy by assigning a critique of homework as homework. Turning in a blank piece of paper would be one way to fulfill the assignment.

A teacher could also assign students to spend an hour engaged in a nonexploitive, joy-bringing activity of their choice. For example, one of the authors knowns a middle grades teacher who assigns "play outside for an hour" and another that gives choices like "calculate your free throw average" as homework. These are examples of "la perruque" or "using employers' tactics against them" (p. 108). La perruque (meaning "the wig"

in French) is an ideal strategy to confront immaterial labor because it functions through disguise and the reappropriation of immaterial value. Michel de Certeau (1984) used the term to consider the ways employees subvert management by using and diverting an intangible resource (e.g.m company time), instead of materials (Henn, 2019). Like la perruque, "making do" is another deCerteau subversion tactic:

> To make do is to make something do what you want or need it to do. The use of the word *make* in this definition implies the subversion of a product's official purpose so it may be of service to one who wishes to use it in a new way. (Henn, 2019, para. 3)

After all, if the immaterial (e.g., time) actually has value then it should be compensated. If it does not, then it should not matter how, or by whom, it is used. Besides, students are already adept at using these tactics so "by becoming familiar with student tactics, instructors may also learn how to operate tactically and use this practice to improve the quality of their students' learning" (Henn, 2019, para. 7, citing Lankshear & Knobel, 2002).

Recognizing their refusal, resistance and reappropriation tactics such as pen (or pencil) tapping can help teachers better understand their students' actions and also learn from them (see also Hidalgo, 2011; Hope, 2009; Jones & Reddick, 2017; Nolan, 2011; Schmidt, 2013; Shalaby, 2017). This mindset turns actions, such as not turning in school work, that might at first seem like anticivic or antisocial into civic and economic acts (Adams, 2018b).

Strategies and Tactics

Educators need new strategies to not only cope but to best and get the best of exploitive employment schemes. A few strategies follow:

1. Foster a culture and habit of technoskepticism. The eQuality project is an excellent site for youth-oriented resources (http://www.equalityproject.ca).
2. Center joy and humanity as a way to refuse the inhumanity of technology and work that is intended to make you feel defeated and exhausted. Try out mindful tech strategies (http://www.davidmlevy.net) and take screen sabbaticals (https://thetechnoskeptic.com).
3. Listen for calls for your participative management and be careful not to deputize teaching responsibilities to students.
4. Use the pandemic and emergency online education as an opportunity to fundamentally rethink the purpose and function of schooling and social studies education. Consider the purpose for policies like attendance, turning on cameras, and completing assignments.
5. Consider what is reasonable to expect of a person (yourself, your students) and what is not and how to make do (Henn, 2019) in these precarious and difficult times.

6. Make your labor visible and material by "show[ing] your work" (D'Ignazio & Klein, 2020).
7. La Perruque!

Finally, if teachers and students are mandated to work, there is value in naming, acknowledging, valuing, and even refusing work. Identifying immaterial labor and understanding how it works is the first step toward economic emancipation.

People cannot resist, refuse or dismantle a system unless they know how it operates. People cannot resist work unless they know what it is. Accounting for labor means keeping track and keeping receipts. Women, especially, must "find a way to present their bill" when "confronted by a system founded on the concealment of the actual costs of labor" (Del Re, 1996, p. 109). This accounting involves calculating the cost of labor, not only in money but also in time, health, and emotional well-being to make informed decisions about whether, how, and to what extent they want to participate.

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