eMorpheus: The unconscious human labour of producing commercial data in educational settings

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Abstract

With the increasing presence of 'datafied' educational settings across Australia, critical components of teachers' educational practice and work have been quantified. Digital data collected through teachers' labour in and around the classroom links to educational practice and the commercial datafication of teachers' online persona. Often described as 'sleepwalking' towards surveillance, this paper argues that corporate marketing strategies induce teachers in a state of 'commercial and computational comatose'. It challenges the concept of 'sleepwalking' by introducing an emergent way of thinking, through the metaphor eMorpheus, to stress broader tensions concerning teachers' working conditions, rights, and employment. Drawing on in-depth interview data generated via the Apps in Australian Classrooms Project, the findings highlight how the new forms of leadership are emerging in educational settings in response through consideration of the eMorpheus metaphor.

Keywords: *eMorpheus, digital, teachers, datafication, labour*

Introduction

It is well established that the datafication of educational environments has enabled the mechanisms of educational practice to become quantified. Although arguably a relatively new phenomenon, school systems in multiple countries, including Australia, the US, and the UK, now incorporate commercial platforms as key components of educational practice (Williamson, 2017a, Perrotta, Gulson et al. 2021). This paper focuses on such places at a time when technology and digital data are part of teachers' workplace as a *fait d'accompli,* and implications of their use are increasingly part of policy and legislative discussions (Brown and Souto-Otero, 2020; Gulson and Sellar, 2018; Komljenovic, 2022; Williamson, 2019). However, there is an altered association with technology in highly technologized societies (Jandrić et al., 2018). This paper aims to acknowledge that the intangible digital identities present in educational settings (Arantes, 2021) need informal and formal forms of leadership to prevent teachers being reduced to commercial and computational objects, which are vulnerable to exploitation. There is a need to explore what underpins the lethargic inertness about how data are circulated in education and associated risks to teachers' workplace safety.

Commercial data in educational settings

In educational research, 'data' is often considered in terms of assessments and information about students. I focus on 'digital data' as the information collected in and around the classroom by commercial stakeholders, with particular attention to teachers' data. Teachers' digital data may include when, where, and how teachers' engage with, trial and stop using commercial platforms. Often referred to as metadata, engagement data and other forms of commercially collected data (Williamson, 2021) about the teacher enable digital platforms to function. The term 'digital platform' is used here to describe government-supported commercial applications and platforms that compose, curate, and

circulate digital data, often through extensive teacher labour (Selwyn, 2020). Examples of platforms may be relatively conspicuous, such as the National Schools Interoperability Program (NSIP) in Australia and the various global comparatives such as PISA, the OECD's Programme for International Student Assessment; or more inconspicuous through the use of de-identified data in commercial edtech platforms such as Google Classroom and Microsoft Teams. As I talk predominantly about commercial data, I also acknowledge that new topologies of education policy do not differentiate cleanly between commerce and the state (Gulson and Sellar, 2018; Williamson, 2019). Instead, I accept that these aspects of a teachers' workplace are established ways in which educators are now employed within contemporary classrooms. Particularly those classrooms that use commercial edtech that is mandated or coerced by the state.

There is an alienation of human teachers from the digital data they produce. The ways platforms profit from estranging teachers from their humanity via data (Mészáros, 2006), requires greater scrutiny. Digital data alienates the teacher from their humanity through the inconspicuous movement and flow of data in and around commercial edtech. The uses of commercial digital data, estranged from the human who laboured over its production, are evident various commercial products. Products may be 'gig' qualifications or micro-credentials (Wheelahan and Moodie, 2021), or the various 'solutions' provided through technology to 'support' teachers (Milan, 2020). Further, digital data is considered to both inform policy (Gulson and Sellar, 2018; Williamson, 2019), drive pedagogy (Gallagher et al., 2021; Veletsianos and Koseoglu, 2022) and shape working conditions for teachers (Kato et al., 2020; Snodgrass and Soon, 2019). The substantial work in this space should remind us of the complex infrastructures that inform and scaffold the 'back end' of the educational apps (Gulson and Sellar, 2018; Hutchinson, 2021) and as such, reveal edtech's addiction to teachers' data.

Edtech or educational technology includes commercial learning analytics and other commercial technologies used in educational settings. I take the view that edtech is underpinned and dependent on data-driven educational systems (Arantes, 2021). I am also of the view that without digital data collected about teachers; edtech, learning analytics and all the other automated products yet to emerge on the market, could not flourish. There's no one way street to techno-solutionism. Firmly embedded commercial platforms such as those owned by large corporations such as Google (consider Google Classroom) and Microsoft (consider Microsoft Teams) collect and use digital data collected within and around the classroom (Buchanan and McPherson 2019, Buchanan, 2020), to sell digital 'solutions' position the teacher within their workplace as having some form of deficit. Of course, these behemoths of technology are not alone in this rhetoric; it is part of the profession's history (Thompson, 2014; Thompson and Cook, 2014). Digitalization, datafication and quantification didn't create it, but it muddied it. How teachers' de-identified data is reused, repurposed and re-processed is intangible, and processes as such explain (in)ability remain insufficient in terms of its implications (Doran et al., 2017; Hoffman et al., 2018). We must consider consequences for teachers' labour due to these changed working conditions. So let's begin the discussion positioning edtech as having difficult to quantify and qualify deficits.

Although teachers strongly conserve their autonomy, teachers' digital data is used to automate practice and performance without a direct line of sight back to the puppeteer. Systems of quantified and datafied modes of responsibility (Cochran-Smith, 2021) and new forms of governance show us that the 'digital revolution' (Komljenovic, 2022; Williamson, 2015) made educational data commercially accessible, viable and valuable. Perhaps, the digital revolution was never really about a revolution in education. Rather it was about opening education to commercial actors discretely. Actors that profit from muddying

how teachers agency enact practice (Priestley et al., 2015) and increase revenue through an intangible challenge to teacher autonomy (Perrotta et al., 2022).

Education capitalism and data-driven workplaces

Educators work within a regime of data-driven, performative accountability (Mockler and Stacey, 2020). This regime is increasingly underpinned by commercial platforms (Williamson, 2017b) and the ubiquitous ways in which data is collected and used within and around teachers' place of work (Arantes, 2021). This is evident through examining policy and claims made by various platforms Gulson and Sellar, 2018; Williamson, 2019). Most platforms use cookies and other tracking devices to compile aggregated information about teachers, as consumers, users and workers. A concrete example is metrics such as sleep, social media use and engagement that may act as proxies to predict anxiety and depression (De Choudhury et al. 2013). For example, FlourishDx claims to be "the only workplace mental health software platform with an integrated approach to employee mental health" (People Diagnostix, n.d.). Some platforms claim that they act as proxies for mental health and well-being when aggregated with risk management metrics.

A second example is a staff being profiled as a risk management strategy. A concrete example is FAMA (https://fama.io/). FAMA is a commercial platform, self-described as 'The smartest way to screen toxic workplace behaviour' by providing 'a talent screening software that helps identify problematic behaviour among potential hires and current employees by analyzing publicly available online information' (Fama Technologies, n.d.). FAMA claims that it uses social media data to screen for risks in workplace behaviour. It could be argued that technology's ubiquitous presence is not about helping teachers but about creating and enhancing old and new ways of exploiting them. Whether direct

factors of economic production or through their digital data, a teacher's workplace is located within a new era of educational capitalism (Beach, 2021).

With the increasing presence of datafied educational settings (Williamson, 2017b), key components of teachers' educational practice and the machinery of their workplace are commercially measured, calculated and computed (Arantes 2021). And the machinery is not neutral.

Let's consider the context of talent analytics being used to predict a teacher's cultural fit (Burdon and Harpur, 2014). Talent analytics uses teachers' digital data to determine benchmarked averages for particular factors, and one may be a cultural fit. Based on past data, benchmarked averages become a digital proxy to represent the 'average teacher' and cultural fit determined according to alignment to this proxy. As such, cohorts not historically represented largely in classrooms will arguably be misrepresented in predictive insights and recommendations for employers (Baker and Hawn, 2021; Giermindl et al., 2021). For example, suppose the insights do not accommodate the legacy of racism and First Nations identity in the classrooms (Bodkin-Andrews and Carlson, 2016). In that case, talent analytics may incorrectly position the 'average teacher' more likely to have greater cultural fit than a First Nations teacher. The 'average teacher' then dominates representations in the data used by many automated decisions, including funding, employment and promotion (Williamson, 2019). The data-driven, performative accountability regime becomes indirectly discriminatory (Köchling and Wehner, 2020), but not scrutinized as commercial digital data is intangible and commercial drivers promote the platform's benefits, not its disadvantages.

This paper adds to a burgeoning conversation in educational research about the implications of commercial platforms embedded in classrooms and educational

practice (Selwyn, 2021; Arantes, 2021; Perrotta et al., 2021; Wheelahan and Moodie, 2021). It explores how Australian K-12 teachers are negotiating their workplace as part of a broader data-driven infrastructure mediated through claims made by edtech solutionists (Milan, 2020). It does this by considering the changing ways teachers are thinking about commercial data and its implications for them personally. It presents a new way of thinking about using commercial edtech in K-12 classrooms by drawing on empirical findings from the Apps in Australian Classrooms Project. The paper amplifies teacher voice about emerging forms of leadership, needed to improve workplace conditions for teachers, as a result of the obfuscation of edtech's disadvantages.

What follows is an outline of the theory that underpins this paper, followed by a brief outline of the Apps in Australian Classrooms Project. I detail how 'teacher voice' has been represented through the data that was collected and how it was analysed through a postdigital lens, followed by an interpretation of teacher's voice presented as three provocations. I point towards an emergent form of leadership found to be evident in Australian schools through these provocations.

Theoretical positioning

I have approached the topic of human labour in the production of data in educational settings from a postdigital perspective. The postdigital guided my thinking towards accepting a changed relationship between teachers and technology in technologized societies (Jandrić et al. 2018). The use of postdigital theory in education allowed me to look beyond the specific apps, platforms, or edtech products that teachers may use, and their pedagogy. Rather, I started looking towards understanding the social relations in classrooms (Fawns 2019) and how digital data relates to human labour (Selwyn, 2021).

Postdigital theory is premised on the notion that a digital revolution has happened. Not limited to education; platforms, instead of humans, are collecting and converting digital data to make decisions in multiple areas within the workplace (Köchling and Wehner, 2020). A 'commercial educational reform' or techno-economic revolution (Williamson, 2017c) has occurred, and it has unseen implications for teachers' working conditions (Selwyn, 2021). The 'unseen' is muddying our sense of concern for such implications. And it is how it remains 'unseen' that this paper focuses on.

To explore the 'unseen' material conditions that produce teachers' digital data, a postdigital approach beings by acknowledging that teachers have been, and are still undergoing a process of commercial datafication as part of their working conditions. The postdigital highlights individual and societal implications, particularly how and why, the mechanisms of educational practice have become quantified, and technology valorized. It considers Marx, and how these mechanisms that produce more data ultimately produce more wealth for the edtech, at the expense of digitally profiling the teacher and making them poorer (Fuchs, 2014). In terms of edtech's prevalence in the classroom, the process of commercial datafication and the obfuscation of its implications remain largely outside of the discussion.

The Apps in Australian Classrooms Project

The Apps in Australian Classrooms Project engaged with Australian K-12 educators and explored how educators negotiated specific concepts, such as commercial bias. Data was collected via an online survey, followed by two rounds of semi-structured interviews, February 2019 to March 2019. The researcher developed the online survey and solicited and engaged educators in the Project through a paid, targeted advertising on Facebook and Twitter. At the end of the survey, all respondents who self-identified as educators were invited

to interview. Although this article does not focus on the survey's findings, the qualitative data collection that stemmed from the educators' initial involvement in the survey underpins this discussion.

Data informing this article stem from the forty semi-structured interviews with twenty-three Australian K-12 educators across the 2019 academic year. These empirical data formed part of the researcher's PhD studies. The interviews explored educator negotiation of various features and characteristics of apps and platforms they were using or had used as part of their educational practice.

The sample

At the end of the survey, the twenty-three participants volunteered to participate in the first round of interviews (Phase 1, corpus 1 of data), and sixteen volunteered to be re-interviewed six months later (Phase 2, corpus 2 of data). All participants were presented with participant information and a consent form, with verbal and written consent obtained before each interview. The educators were from across Australia and held various roles in and around educational settings. The majority of participants (56%) had been teaching for over 20 years, and eighteen percent held leadership positions; sixty-five percent worked in secondary schools, 35 percent in primary schools, and 13 percent held positions within the learning difficulties space, education support or librarianship areas. The twenty-three participants were both recently working in classrooms, and those currently working in classrooms were included in the sample. Those not currently working in K-12 classrooms either were on maternity leave or had recently worked within K-12 settings or regularly worked with K-12 educators. Three participants had moved into government department positions, and two held casual lecturing positions.

Accepting that twenty-three participants will not provide statistically significant findings, the variations in the sample were seen as valid, as the findings are exploratory and underpinned by an interpretivist approach. The findings are grounded in the view that educators socially co-construct their own realities (Creswell and Poth, 2016). Therefore, the emphasis is placed on interpreting the literature and placing value on the subjective nature of data collection (teacher's voice) and analysis. As the research intended to account for the individual educator's social reality, interpretation and subjectivity are considered to be essential components to acknowledge in this study. That is, how the educators understood platforms and apps was influenced by various socio-cultural factors and, as such, are considered to be context-dependent.

Data analysis

Thematic analysis of the first corpus of data was initially structured by *a posteriori* themes presented by Tsai et al. (2018) in developing the SHEILA Framework. The second corpus of data was structured a priori, according to the developing themes in the first round of interviews. That is, themes were identified across the survey and Phase 1 data collection, then used to deductively process the Phase 2 interview data. As the findings focus predominantly on the analysis of Phase 2 data, the a posteriori themes will not be expanded on here. See Table 1.

Table 1: Themes Observed in Phase 1 and Phase 2 Interviews

Phase 1 Interview Data	**Phase 2 Interview Data**
Commercialization Variable	*Control*
Personalization	Commercial Modulatory Control
Scope	State or School Directives
Cost	*Discrimination*
Monetization	Bias
Guidance	Equality
Algorithmic Systems Variable	*Resistance*
Algorithmic Bias	The Trade-Off
Guidance	*Educational Practice*
Potential Implications	What should Learning Analytics do?
	What is Meaningful and
Social Dimensions Variable	Personalized?
Autonomy	*Role of the Teacher*
Power and Freedom to Act	Internal Capacity
Justice	Employment
Privacy	
Social Dimensions	

A deductive analysis of the subthemes occurred to report on the findings of the deductive analysis of the 'Social Dimensions' theme in Phase 1 and indicative processing of the developing themes found in Phase 2 under the variables Control, Discrimination, Resistance, Educational Practice, and Role of the Teacher. The Social Dimensions theme focused what teachers understood regarding how the role of the teacher is changing, socio-technical imaginaries regarding human-computer interaction and where they see the future heading and what benefits and risks they perceive. These were chosen to unpack the social dimensions of working with technologies as part of their educational practice.

A sample of this second corpus also underwent quantitative analysis. Aligning with the analysis used by Tsai et al. (2018), Epistemic Network Analysis (ENA) was applied to this corpus. The ENA tool was used to gain insights into the data collected from the Phase 2 interviews, using two consecutive conversation utterances (researcher and participant). The total (N) adjacent stanzas were considered a single unit as the interview responses were dependent on the previous utterance and linked to the next utterance (i.e. building on each other). As there were two speakers (Researcher and Participant), two adjacent utterances were used (i.e. the transcribed interview), with two conversation utterances as moving stanzas mentioned by the participant only, to examine connections between the codes. The ENA was conducted firstly at the variable level, looking for associations between Control, Discrimination, Resistance, Educational Practice and Role of the Teacher. The developing themes of 'Leadership' and 'Working Conditions' emerged, as seen in Table 2.

Table 2: Developing Themes 'Leadership' and 'Working Conditions'

Theme 1. Leadership	**Theme 2. Working Conditions**
• Policy Interpretation • Mental Health and Well-Being • Justification • Regulations • Training	• Teacher Agency • Safety

The paper will now report on these findings, emphasizing the themes of 'Leadership' and 'Working Conditions'. The Leadership theme is described as the ways teachers resisted data collection concerning personal information, the 'trial culture' or the amount of, and how they provided data when signing up to trial apps and platforms. This theme also included how they were providing leadership or guidance in relation to anonymity, using pseudonyms, and

discourse around the pervasive monitoring of teachers, cookies, and other tracking devices. The Working Conditions theme is described as teachers' negotiation of how data can be resold and as such digital representation gets reshaped or lost by the platform as part of their working conditions. This also includes when a teacher considers privacy, their digital self-continuing through video, and what the platform does with their data and autonomy to act.

Findings

The themes of 'Leadership' and 'Working Conditions' are presented here. They are considered in the context that globally, teachers are working within schools that mandate and encourage commercial edtech as part of their working conditions (Cureton et al., 2021; Pangrazio et al., 2022; Perrotta et al., 2021). Although the data is sourced from Australian teachers, commercial platforms are a global phenomenon (Kumar et al., 2019) and as such, although this study do not search for truth, but rather verisimilitudes that build on established theories across transdisciplinary research (Gioia and Pitre, 1990), they may prompt discussion in other contexts.

The findings focus on presenting a narrative to provoke discussion. The narrative details how teachers are exhibiting a new mode of leadership based on their use and knowledge of edtech in their place of work. I begin by summarizing the findings as a set of inter-connected phenomena associated with commercial platforms but set within a much broader network of data flows. I then offer three provocations that have direct quotes from teachers embedded into the narrative to provide structure to the developing interpretation. Finalizing with the findings embedded in established theory, I present an argument for a new metaphor that challenges the concept of teachers 'sleepwalking' towards deficit based edtech that enables surveillance in their

place of work. What follows, is considered to be a coherent description of the new form of leadership captured in this study.

Summary of findings

How teachers negotiate commercial data and the infrastructures that enable it to be profited from, was found to be a complex negotiation between intent and motivation. These complex realties are presented in these findings. With the interpretation of the teacher's voice embedded in theory, the findings are afforded credibility and rigor. The findings suggest that uncertainty and doubt were inherent in the discussions. And that a small cohort of teachers, firmly challenged the teacher-deficit discourse that plagues education, yet makes techno-solutionism inherently profitable to reveal the edtech-deficit discourse and the lack of lack formal and established leadership systems in this space. This cohort of teachers presented 'a' truth, which is presented here and supported by broader findings of the project to provoke greater debate and discussion.

An emergent form of leadership was displayed by some practicing teachers who could problematize emergent forms of edtech products. For example, the validity of automated decision making could be argued against. This finding is significant, as some teachers were considered to be practicing new forms of leadership, but within very controlled and historically well-established educational policy, legislative and governance parameters. New forms of leadership included teachers being innovative and creative whilst not necessitating technology as part of their practice. That is, resisting claims that technology is *needed* to be an innovative teacher. To that end, they remained very capable of incorporated technology if warranted; it was a choice to not do so in specific contexts. Further, they were considered working collaboratively, in and out of the classroom, as they facilitated, established and led further

learning beyond being a practitioner at a specific school. They were sharing their leadership knowledge beyond the walls of their employment. These new forms of leadership in education focused on how commercial data, digital infrastructures, and broader networks beyond established practice were impacting pedagogies, educational practice and their working conditions.

Provocation 1: The commercial surveillance of teachers is intentionally obfuscated to circumnavigate the commercial value of teachers' data.

This provocation considers how teachers were aware of and understand that commercial surveillance is part of their working conditions. The interviews found that educators were aware of 'tech talk' and that edtech had more than an 'educational' interest in schools. This ranged from understanding how the language used to promote commercial products does not always align with educational language, the additional unpaid labor of 'working' for a platform, and an understanding that their data is used for commercial purposes.

Many of the educators were engaged in various forms of commercialized labor. The interviews revealed, that they were part of various online communities to increase knowledge and skills, share resources, and collaborate with teachers both in Australia and internationally. Jay was a Seesaw Ambassador, Mr. D, Dimble, Moo, and Jonesy had Google Certifications. Mrs. Jackson and KL were Classdojo Ambassadors. Lisa T plus various other educators were Microsoft Innovators. Thirteen out of the sixteen educators asked in Phase 2 interviews, about badges and certificates, were also part of an online commercial group or had received push notifications to further engage with a commercial platform. The burden of such work was rarely related to their data production. Although the educators were found to be aware of sales strategies in some part, they were not necessarily aware of the commercial value of their data. Adele stated,

> I don’t think that I’ve ever really ... like I said, I often wonder how you can get some of these things for free….I haven’t had a good look at their terms and conditions, but I would assume that they don’t sell your stuff.

A few teachers were aware that their actions online were being used to target advertising across platforms, but did not see it as significant as they could not explicitly match advertising to platforms. These teachers seemed somewhat content to allow their data for such purposes until unsolicited direct approaches were to be made. Fred stated:

> I just saw one that was advertised the other day, and it was advertised through Facebook. I saw it on there. So I thought, “I'll see what this is," because our school doesn't do Mathletics. I did at my previous school, so I was thinking, "Oh. Okay, I wonder what this is?" But when [I] clicked on [it] and looked through it, while it signs you up, and you've got a little bit for free. It actually, you could see that it was; actually, you were going to get harassed by it. I can't even remember what the app was now, but it was some sort of math system.

Some of the technology-savvy teachers were also data-savvy teachers. These teachers held a clear understanding of the commercial value of their data. For instance, Dimble stated, “I think the sum is usually tech companies offer a teacher convenience, and we provide the student data and teacher data.” Dimble described a sales strategy that underpins some free commercial platforms, including the commercial value of keeping commercial intent obfuscated. For example, Dimble stated

> the way that they do it is through educators as the conduit… you provide them with free stuff and questionable legality things, so that then you have the educators, so then you have the educators as loyal users of apps who then share it with other educators via Twitter and so forth.

This notion of teachers' data holding commercial value, was also described concerning search engines, the push notifications sent via email, and the various 'solutions' promoted on personal social media channels. Comradedogboy explained, 'The people at the very top of that list have paid a lot of money to get there….it ultimately modulating what information you see… has been shaped by an external platform.' The specific ways teacher data was being circulated and revealed a simmering concern about teacher agency.

For example, Dimble unequivocally argued that commercial profiling of the teacher simply should not occur. Stating that 'we're adults with autonomy. And so, we don't need inferences made about us,' Dimble also flagged that "the overwhelming sense is that data is better.' Dimble was leading the discourse to question 'what' data is better? When coupled with research that indicates teachers are not aware of the implications of collecting and using commercial data (Arantes, 2019), it is no wonder the extent of commercialization within a teachers' workplace is largely intangible (Lingard et al. 2017). How can this occur you might ask?

Critical in this discourse was the unimagined role that cookies played. Cookies, or commercial data collection devices and other tracking tools placed on teachers' personal devices were rarely discussed or imagined. Fred stated,

> I don't think teachers think of themselves [as data]. I think they think of their kids [data]. I think most teachers would feel that they are very safe and that they wouldn't have a problem with [data collection and profiling]. Again, I think it's hard because it can be quite *invisible*. [emphasis by the researcher]

Although 'the overwhelming sense is that data is better' (Dimble), 'data' was not the commercially collected data through cookies and other tracking devices.

'Data' was fundamentally about the students and assessment, much more so than their own. Teachers' data was somewhat invisible and the commercial value of the educators' data was not considered. When prompted about their own data, many questioned the value of their data. 'Why would anyone want my data?' Fred stated: 'Yeah, because I'd want to question what would that data tell them and why would they need it?' The notion that their data was baked into sales strategies was not at the forefront of the educators' minds. The perceived value of 'data' was related to student assessment and educational outcomes, leaving them somewhat comatose to the notion that their commercial digital profile was being used for profit. When asked about reading and understanding policy related to cookies, Lisa T stated 'Not in detail… I just tick that box when it comes up.' The ease of using platforms and apps and their collected data was regularly flagged as quick and straightforward. 'Ticking that box' arguably bypasses cognitive recognition that commercial data is fundamentally about the teacher being a 'conduit' (Dimble) to bringing the app into the classroom. Further teachers were instructed to care for student data, less so than their own, as described by Jonesy, who stated,

> I think they [teachers] probably are more worried about screen time and device use amongst students… There are lots of education programs about your digital footprint for students, but not so much for educators.

Provocation 2: Teachers' have a lethargic inertness about informed consent regarding <u>their</u> data.

This provocation expands on the commercial value of teachers' data and considers if new forms of leadership are emerging that resist the non-consensual collection of data. Like Selwyn's (2020) findings, the teachers were using various apps and platforms as part of their educational practice. This provocation positions our thinking to consider edtech apps and platforms as

dependent on the teachers' data that is collected and used from within and around the classroom. With teachers considering 'data' to be about their students, yet needed by the platforms as a conduit for sales purposes, this provocation asks whether teachers are providing consent for their data to be used for profit. With acceptance that the app is dependent on the teacher, this provocation raises consideration of informed consent and whether there is a state of lethargic inertness associated with teachers' data.

Beginning with state informed guidance, I consider how the teachers talked about policy that guides their use of apps and platforms. Tellingly, there were differences between state policy and the enactment of 'bringing in' a commercial platform or app to the classroom. Jay indicated that she read commercial policies about cookies and privacy, "to an extent [as she was] currently doing [the] risk register, [so I am] currently reading them all and understanding maybe 10% of it." Only one educator discussed a state-sanctioned process to assess risks of using commercial platforms. Jay, from a northern state in Australia called Queensland, flagged that although the process was in place, her understanding of the risks was limited. Although Privacy Impact Assessments (Clarke, 2008) established by the Office of the Victorian Information Commissioner (https://ovic.vic.gov.au/privacy/for-agencies/privacy-impact-assessments/) were apparent, no practicing teachers mentioned that they used this risk assessment, except this Queensland teacher. Clearly, risks was known about, but enactment in the classroom was not apparent. Only a small group of teachers considered, how the data collected from cookies and other tracking devices may be used in and around their workplace, without formal forms of workplace risk assessment. Unsurprising then, the findings suggest that informed consent was unlikely to be achieved.

It is not surprising that data in school settings must be seen as part of labour relations, which demand high-level technical expertise to be comprehended and controlled. In a near-ubiquitous manner, commercial data collection and use (O'Brien, 2008) in the modern-day classroom has afforded the surveillance of teachers through often seemingly unremarkable activities (Proudfoot, 2021). Selwyn (2013: 4) states ‘This sense of ‘sleepwalking’ is certainly reflected in the apolitical manner in which educational technology has been understood and discussed by academic commentators over the past 30 years or so.’ These findings problematize the notion that there is a lethargic inertness associated with teachers ‘sleepwalking’ towards commercial surveillance and digital educational governance in their workplaces. It does so, by raising issues of consent.

It has been interpreted that teachers were not expressing forms of professional obsolescence nor apathy towards their data usage. Rather, some teachers felt they could not make an informed choice, irrespective of whether they embraced or did not embrace technology. To explain, I refer to Linsimma who limited his use of free commercial apps to those he was either mandated to use or would provide increased inclusion in the classroom. Linsimma was mandated to use specific technologies in the classroom, and as such resisted further commercialization by not using other forms of edtech. Linsimma was mandated to use SEQTA (https://seqta.com.au/) and the Apple platform, stating,

> we are *required*, at my college, we are *required* to use what's called SEQTA, which is a daily management sort of program that is used throughout the Catholic system to track student enrolments, communication with parents, notify pastoral care, things like that. Our college operates all through that platform. [emphasis by researcher]

SEQTA stands for Saron Education Quality Teachers Assistant. Their website claims to provide ‘more than 45,000 teachers and 395,000 students with instant online access to everything they need to teach, learn and grow’ (https://seqta.com.au/about-seqta/). Whether coercive or mandated, the comments about SEQTA highlight a lack of voluntary consent towards its use. This is significant as it is now accepted that the de-identification that claims to protect privacy, does not actually protect privacy as once thought (Culnane and Leins, 2020). For example, Culnane and Leins (2020) highlight that “we continue to rely on a technique [de-identification of data] that has been shown not to work, and further, which is purported to protect privacy when it clearly does not.” SEQTA collects de-identified information, as well as globalized “personal information that is publicly available, such as on websites, or from third party organizations and bodies, including government bodies” (SEQTA Privacy Policy, n.d.) sharing it with technology behemoth Google Analytics. Thus, by requiring that Linsimma to use SEQTA, the school is enforcing the commercial collection of this teacher’s data, which is known to have implications for his privacy.

And while, some teachers were aware of issues, with Dimble stating that he could “make informal consent” as he was “aware of the handshake that I'm making with them between convenience and the data that I'm offering them” - if educators are coerced or forced to give consent, surely this is a workplace risk? After talking to the teachers, I am astutely of the view that no teacher would knowingly consent to privacy violations as part of their working conditions. Thus new forms of leadership, focusing on consent when using edtech are warranted. That is, perhaps we need leaders to challenge the mandating and coercive nature of digital data collection as part of a teachers’ working conditions, as it is edging closer to being a workplace hazard?

Those that were interpreted as displaying new forms of leadership in this space were considered to encourage concerns to be voiced through policy and practical means. Some suggested that "if there's free apps that are coming in…at least register it on this document, and so people then get an idea [of the size and scope]" (Linsimma) of data flows and associated implications. Further expanding to explain that teachers would "like that to be done externally to them so they could just focus on what's happening in the classroom," Linsimma also pointed out that the "motivation for being teachers" was not to "take on another load of complex work" and that "there needs to be a whole support approach and [a] specialist involved." Here we see an expression of a lack of agency and sense of being 'unsafe' due to a lack of informed consent and a lack of control over the size and scope of data collected. This notion of digital data as a workplace hazard starts to make us consider edtech in terms of occupational health and safety, and to what extent teachers can act to prevent the hazard from occurring.

Provocation 3: Teachers are powerless to act.

Underpinning these various conversations and considerations was a general sense of forced or coerced lethargic inertness about how their data was circulated in and around data infrastructures. Computationally unconscious, some could sense concern, but could not communicate why. Jay described how a feeling of being tracked and predicted was creepy. In discussing targeted advertising, Jay stated, "And then it popped up as a sponsored ad on my Facebook. So I don't know, and I kind of went, oh creepy." Processing events from their environment, but somewhat powerless to respond, others expressed concern with how their digital profile may be used in their workplace. Jonesy stated,

> we're definitely obviously worried about what sort of information is captured by the people who own those platforms, but we [are] reasonably *powerless* in our situation because if we want a solution and we have to go with a platform like that, then we *don't really get to decide what their conditions of use are*. [emphasis by researcher]

Alongside the ongoing struggle to maintain agency in such situations, one teacher discussed how such 'solutions' enabled by digital technology might modulate teaching. Dimble stated,

> There are companies… that [have] teachers…stand up in front with an iPad. [The device] says, "Say, good morning class." You go to the next page it says, "Hand out the books." The next page, it says, "Today we are learning… [It is the] "Uberfication" of education…they were [being]… dictated to be able to teach."

Some data-savvy educators intensely disliked the notion of being commercial profiled in educational settings due to concerns about removing or limiting their agency. Although these challenges were apparent, such activities were assumed to be given the green light within policy and the educational systems due to the acceptance of widespread commercialization in Australian K-12 educational settings.

Instead there was a sense of powerlessness expressed. This sense of powerlessness in their workplace raises a host of questions regarding what data is counted and what is not. Will teachers be promoted according to commercial datasets that predict their likelihood to be good leaders? Will commercial data feed into the de-professionalization of teaching, as 'solutions' are built from perceived deficits? Will teaching shift from being relational, guided, and shaped by labor relations to being machine-led and predicted based on what the 'average teacher' should look like?

Discussion

The datafication of teachers intentionally creates a lethargic inertness towards the commercial value of their data, leaving them powerless to act without emergent forms of leadership to guide them away from nascent technological hazards. It could be argued that teachers are in a state of commercial and computational comatose drugged by corporate marketing strategies and a lack of informed consent. Although new forms of leadership are emerging in educational settings in response, we need new language to make clear the powerlessness teachers are feeling. We need to position edtech in the deficit and push back against the 'tech talk' that teachers are sleepwalking towards digital forms of governance and surveillance.

To do so, I turn to Greek mythology, and consider Morpheus the god of sleep and German pharmacist Sertürner, who named the opioid for insomnia, morphine. Just as a patient cannot be expected to awaken from a morphine-induced coma, I propose an emergent way of thinking, represented through the metaphor eMorpheus. This way of thinking rejects the notion that teachers should or can be expected to grapple with the complexities of algorithmic systems. It refers to the god of dreams in Greek mythology, with the 'e' being used to flag the digitized nature of being commercially and computationally comatose. The 'e' also refers to how digital data enables commercial platforms to hold teachers' autonomy as an objective state, represented in benchmarked averages.

Computationally comatose, as teachers are repositioned as an objectified class of practitioners, rather than a class of agentic individuals working reflexively and as a part of a professional collective. Commercially comatose by the time needed to read commercial policies, the increased capacity required to interpret legal documents, the need for ongoing research to keep pace with the rapid

technological and legislative change. Perhaps we use Selwyn's (2020) suggestion that data in school settings must be seen as part of labour relations that demand high-level technical expertise to be comprehended and controlled. Although not surprising, it is needed as legislation, policy, and regulations have yet to keep pace. Perhaps we should be debating any notion that teachers (and anyone in society) are 'sleepwalking' towards commercial surveillance in their workplace.

Unresponsive to their environment, do we actually go about completing work through and with technology asleep to the multiple ubiquitous factors that actively keep us asleep? Teachers, not only in their place of work, but also on social media, they ways they consume media and the ways they communicate, complete financial transactions and order food feed into this infrastructure. Are they actually able to be woken from this smothering of data-informed decisions? It just doesn't seem feasible that teachers are in control when the rest of society is not. Nor are they acting with agency. We cannot consider the concept of sleepwalking, because sleep walking is somewhat comforting.

Sleepwalking, is a behaviour disorder; well documented, researched and discussed. People awaken from sleepwalking. Further, sleepwalking is often a random and relatively harmless event. Therefore, if teachers are sleepwalking towards commercial surveillance, we imply that there is something out of order with the teacher. Doesn't this perpetuate the teacher-deficit rhetoric? Doesn't this discourse imply that teachers, through training, could stop themselves from sleepwalking towards the implications of edtech in their workplace? Like an alarm that awakens a person sleepwalking, do we believe teachers can actively resist technologies profiling them by simply not using edtech as part of their pedagogy? How does that align with their employers mandating technology's use? And Cookies being placed on their personal devices? There is security and

safety in being asleep. After talking with the teachers, I'm not sold on the notion that teachers can safely work with and through edtech, while resisting being commercially profiled. As this paper's data suggests, this phenomenon is different from sleepwalking. Teachers are not walking around, teaching classes and being interviewed for jobs while in a state of sleep; they have been induced into a coma through state-supported commercial marketing strategies that are enabled through data-driven edtech. Teachers are in a state of being 'commercially and computationally comatose.'

Comatose flags a lack of agency, control and safety. It flags that someone else, external to yourself, is like a puppeteer, guiding your behaviours and restricting your movements. Like Marx's theory of alienation, thinking about being in a state of comatose helps us to get beneath the surface of how digital technologies are created and experienced. It helps us to illustrate the contradictory nature of the digital working conditions for teachers that arise through the needs of capitalism. It indicates a sense of powerlessness or an incapacity to be awakened; this is unlike sleep. If data is being unconsciously surrendered to commercial platforms resulting in commercialized digital technologies increased profits, surely this is not slumbering in the arms of Morpheus. Like an injection of morphine, it is more sinister. It is to keep teachers quiet. This paper is a call to arms. We need to look at data and the digital technologies that collect and use it, like a workplace hazard that should afford protection and legislation. We can't just consider pedagogy in terms of digital technologies. The lack of protections afforded to teachers when their workplace mandates and coercively encourages technologies effectively renders teachers vulnerable to commercial and computational opiate like hazards.

So where to from here? Perhaps this metaphor is a contemporary version of alienation theory in the digital age. It was once stated that 'despite a recognized

relationship between alienation and social problems, little progress has been made toward the development of ameliorative strategies' (Stokols, 1975: 42). Then, almost 50 years later, Lazarus (2019) argues that critical digital pedagogies offers 'hope to educators looking for practical ways beyond capitalist exploitation and alienation, but lacks the analytical foundations needed to contribute to the liberation of our 'general intellect'' (391). Perhaps this metaphor brings out issues of Universal Design, where Abberley's (1987) notion that the development of capitalism constitutes disabled people, could provide a vehicle to understand the context of digital platforms and teachers' work. Is it possible that datafication and digitalization in educational settings create disability that commercial platforms benefit from to exploit teachers? Have we not yet noticed that edtech has created an impediment for some. Have we considered that teachers are now processing information about other teachers' commercially and computationally induced impediments and trying to make reasonable adjustments to their pedagogy as a result? We all know that capitalism creates its markets in a space where transparency is not profitable. Start-ups have leveraged not having a product, but selling an idea for decades. In this sense, this metaphor is not new. However, this paper has uncovered new leadership and new ways of thinking in this space. There are teachers that are actively resisting the notion that their employment is tied to their use of a large corporate data collectors such as Google or Microsoft. There are teachers leading others to challenge the creation of products based on perpetuating a deficit discourse about teachers. I wonder to what extent, they are being promoted? Or silenced?

Conclusion

The eMorpheus metaphor provides a new way of thinking that positions digital data, edtech, data infrastructures and the algorithmic systems that underpin digital technologies as workplace hazards. By doing so, edtech must be assessed

alongside other workplace Occupational Health and Safety hazards. Revolution against commercially exploitative digitalization demands broad involvement, just like other workplace hazards demand a whole company approach. The use of the eMorpheous metaphor may offer an important trigger against some of the fundamental contradictions at the heart of the digital environment often celebrated in schools. We need to position ideas about better technology and more effective end-user education as solutions to education's problems, as avenues of exploitation and harm. The eMorpheus metaphor forces us to acknowledge that intangible digital identities and commercial profiling of teachers need to be actualized according to established guidelines, policy and legislation to make such harms tangible. By doing so, we can develop leadership to prevent rendering teachers commercially and computationally comatose, and vulnerable to harms evident in research.

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