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Post-panoptic accountability: making data visible through ‘data walls’ for schooling improvement

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ABSTRACT

Post-panopticism is aligned with the Foucauldian conception of power and illustrates its apparatuses and mechanisms, for instance the visibility of bodies under the gaze, the facility to mobilise power relations for political purposes, and the capacity to engage self-technologies where there is self-surveillance and surveillance of others. As a concept, it is a confluence of the disciplinary power of panoptic control and the ubiquitous security mechanism of biopower in action. Post-panopticism in the discipline provides a means to identify areas of lack in teacher and student populations. Post-panoptic surveillance in Australian schools is illustrated in this article around the use of data wall displays. Data walls are a collective mechanism that produces biopower through its alignment with panoptic disciplinary power in schools. These data assemblages are an example of a suite of technologies that profile student performance, mould teaching practices, and shape subjectivities of leaders, teachers, and students.

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Introduction

With the rise of the evidence based practice movement that has its origins in the medical model (McKnight and Morgan 2020) and the associated ‘visible learning’ behemoth (McKnight and Whitburn 2020), the trend of making data visible in order to improve practice has grown in reach (Lewis and Holloway 2019). This accountability shift and datafication has been clearly signalled in the policy literature (Neumann 2021; Takayama and Lingard 2019). Since the 1990, there has been increased interest in the development of practices which involve ongoing interrogations of visible data. Data walls are common across Anglophone countries which include New Zealand, Canada, the United States, and Australia (Harris, Wyatt-Smith, and Adie 2020).

Designed to increase accountability, transparency, and facilitate motivation and goalsetting, the physical presence of student data on office, staff room, and classroom walls signals student achievement patterns and growth in relation to a specific cohort of students at a particular moment in time (Adie, Harris, and Wyatt-Smith 2020). Data walls have been defined as:

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as physical artefacts displayed in schools that visually represent student achievement data (e.g. student grades, standardised test scores, reading levels, school-based assessment results) in varying graphic and linguistic formats and which are exhibited publicly (e.g. in classrooms, school hallways) or semi-publicly (e.g. in staff rooms, school offices) (Harris, Wyatt-Smith, and Adie 2020, 51)

Data walls can be used by students, teachers, leaders and external stakeholders to compare student achievement against prescribed norms of performance levels and state's performance levels. Data artefacts can include faces of children, lists of students' names, information in grid format, or linear paths or trees (Singh, Allen, and Rowan 2019). Results are visually displayed and a marker is used to signal individual students' levels of achievement, making data visible at specific points in time over a term or school year (Adie, Harris, and Wyatt-Smith 2020). Teachers use data walls to collaboratively review achievement data to signal areas where they can improve their teaching and detect where students are under-performing on a particular skill so that it can be retaught (Jones, Stall, and Yarbrough 2013). They are used to track and monitor the progress of individual students and adapt programs to address their needs. In some instances they are used with students to compare their progress and level of achievement with others (Marsh, Farrell, and Bertrand 2016).

While data walls can be motivational in assisting teachers to maintain their focus on student progress and achievement, it has also been acknowledged that there are concerns around privacy and psychological safety for teachers and students (Harris, Wyatt-Smith, and Adie 2020). In this article Foucault's (1977) model of panoptic discipline, evolving literature on post-panopticism (Courtney 2016; Page 2017a, 2017b) and data walls (Adie, Harris, and Wyatt-Smith 2020; Sharratt and Fullan 2012) are used to consider how this approach to student and teacher surveillance is immersed in post-panoptic schooling relations.

In Australia data walls serve as a means to build data literacy and support moderation practices (Renshaw et al. 2013). Wyatt (2017, 81) claims that regular data collection and the use of data walls makes it 'much more difficult for children to 'slip through the cracks' and teaching becomes more relevant, engaging and purposeful. Using a concept that has its roots in the work of Michel Foucault (1977), I address the question: How is post-panopticism evident in data wall use and what are the implications? I commence with an overview of literature on Foucauldian panopticism and the discourse of datafication that has become so ubiquitous in Anglophone education systems (Lewis and Holloway 2019). Assessment data are used as a means to hold teachers to account for their teaching practices and as a means to profile and ensure the implementation of specific evidence-based forms of pedagogy. I adumbrate how data intensification characterises the features of post-panopticism and how data walls are a post-panoptic logic. I present an argument that while data walls can be potentially useful to practitioners, they also produce concerning forms of surveillance oriented activities and subjectivities.

The panopticon and biopower

The Foucauldian metaphor of the panopticon has been used to illustrate how surveillance operates in society and in particular how power can be operationalised to enhance social and economic productivity through 'instruments that render visible, record, differentiate and compare' (Foucault 1977, 208). Originally it was conceived as a means of gaining power

over the mind through architectural prison design, where cells were located around a central inspection point or watch tower and surveillers could see without being seen (Bentham 1791). Panoptical technologies of reform are deployed to both create systems of government in education and to produce teacher and student subjects who can surveil themselves.

According to Foucault (1977, 201), the panopticon induced ‘in the inmate a state of conscious and permanent visibility that assures the automatic functioning of power.’ This is ‘the gaze’ in action as one never knows if someone is watching from the watchtower but the sense of being watched is internalised. Wilkins and Wood (2009) elaborate how the data-driven auditing present in schools has become mainstream in initial teacher education, with professionals self-policing their own performance. It has been applied to schooling inspections, with Courtney (2016) arguing that educators have become disciplined through its processes and awareness of it can reveal the state’s overt exercise of power. In a similar vein, Page (2018) draws on it to highlight how teachers have become increasingly surveilled with visibility normalised in contemporary schools and colleges. In these examples, practitioners are visibilised and measured against pre-determined social and/or professional norms.

The panoptic (all seeing) design was premised on the notion that, although ongoing surveillance was an impossibility, prisoners (leaders, teachers and students) would not know if they were watched or not and regulate their behaviour accordingly to conform with prescribed rules. Through recognising one’s own visibility and vulnerability in the face of others’ judgements, an individual ‘assumes responsibility for the constraints of power’, internalising the power relation and by doing so becoming ‘the principle of [their] own subjection’ (Foucault 1977, 202–203).

In his 1975–1976 lectures, Foucault (2003) elaborates on his conception of the panopticon to illustrate how ‘mechanisms of security’ juxtapose disciplinary mechanisms (like panoptic power) implying a shift in his conception of discipline and regulation. The initial panoptical concept can be seen as ‘anatomo-political’, in that it regulates and controls individual human bodies. However, the rise of the massification of control has enabled large populations to be influenced and manipulated. This ‘biopower’ dovetails into disciplinary technologies and circulates in the post-panoptic milieu, so that all subjects exercise technologies of the self (Foucault 1988) and are at the same time are regulated through new technologies that address collective phenomena and have both economic and political effects (Foucault 2003). As Foucault (2003, 245) writes, ‘biopolitics deals with the population, with the population as a political problem, as a problem that is at once scientific and political, as a biological problem and as power’s problem.’ Furthermore, in addressing this ‘problem’, Foucault (2007) describes specific techniques that are used in relation to each other that enable populations to be the surveilled and controlled. There is ‘the diagnosis of what they are, the classification of their mental structure, of their specific pathology, and so on; in short one has to appeal to a whole disciplinary series that proliferates under mechanisms of security and is necessary to make them work’ (Foucault 2007, 8).

As I have written elsewhere (Charteris 2019, para 7), ‘students, teachers, leaders, and teacher educators are worked on through both governmental technologies of the self, where subjects discipline themselves, and pastoral forms of control where reforms happen in communities who exert a collective pressure.’ When we combine technologies of the self with the mechanisms of security that regulate populations (e.g statistics, medical and educational classifications), we can see how this entanglement of biopower is strengthened

through operations at micro and macro levels. Nowhere is the combination of ‘collective pressure’ and ‘mechanisms of security’ more apparent than in processes of datafication that have become so prominent in schools and are a key aspect of post-panoptic activity. In schooling settings for instance, as Niesche (2015, 138) points out, the principal is no longer ‘an expert teacher turned leader but is the target of all school related aspirations and complaints, is rendered visible to all and is responsible for making the school calculable.’

Datafication-making data public within schools

Over the last couple of decades in education there has been emphasis on calculability that manifests as ‘governing by numbers’ (Ozga, Segerholm, and Simola 2011; Rose 1991). Data are gathered across all tiers of education systems and correspondingly there is an intensification of teaching as a result of this datafication. Calculability involves turning student outputs in to quantifiable scores to be compared with expected curriculum achievement levels. To be calculable, teachers make links between teaching approaches and practices and the particular student achievement outcomes they are said to produce. There has been the narrowing of condoned pedagogy, as it becomes increasingly prescribed through the requirement that it conforms to sanctioned evidence based literature. Furthermore, teaching practices are increasingly quantified through mechanisms of professional development and quality assurance to ensure they conform to sanctioned approaches (Lewis and Holloway 2019).

Datafication has been an area of concern for educators (Ozga 2009; Takayama and Lingard 2019) with data influencing all aspects of teaching learning and schooling administration. Data are curated to profile individual children; classroom results, schoolwide data, trends across regions or clusters of schools, statewide data, and even data from international comparisons. Data hold a highly influential position, informing the decisions of a wide range of stakeholders (e.g. education policy makers, state departments, school governance authorities, school leaders, teachers, students and parents (Jarke and Breiter 2019). Teachers are governed and regulated through the use of student achievement data which serve as an ‘invisible means of social control through data generating monitoring systems’ (Singh 2018, 49).

The trend of datafication reflects a shift in mode to a new logic in education administration and governance which involves a shift ‘from centralised and vertical hierarchical forms of regulation to decentralised, horizontal, networked forms’ (Ozga 2009, 157). As a ‘mechanism of security’ par excellence it regulates and controls populations. Data regulate the social and cultural dimensions of schools (Takayama and Lingard 2019) and serve to constitute subjects (e.g. students, teachers, school leaders) and the environment they work and learn in. Quantitative benchmarks and indicators provide a means to gauge student, teacher and school system performance which can be used by commissioners and designers of assessment and statistical instruments to gain increased ‘control over the field of judgement in education’ (Takayama and Lingard 2019, 2). Moreover, teacher subjects are actively constituted through ‘processes of “tracking data” and “keeping data on-track”’, and through these mechanisms teachers can be simultaneously ‘disciplined, or “tracked”, by these very same data’ (Lewis and Hardy 2017, 219).

In Foucauldian terms, educators are subtly conditioned to accept particular regimes through ‘hierarchical supervision, normalising sanctions and examination’ (Perryman et al. 2018, 147). This monitoring and supervision promotes a culture of performativity where

surveillance impacts on the authenticity of teachers' actions with the 'teaching and subjectivity of the teacher ... both profoundly changed within the new management panopticism' (Ball 2003, 219). Ball argues (in the context of school inspections) that teachers present fabrications, accounts of themselves, spectacles or enacted fantasies which do not strictly exist. Although these subjectivities are not 'outside the truth...neither do they render simply true or direct accounts [as] they are produced purposefully in order "to be accountable"' (Ball 2003, 224). As a primary means for ensuring teachers and leaders are accountable for schooling practices, the requirement to give an account of oneself through the use of data provides an impetus for fabrication.

Datafication performs a range of functions. As panoptic technology, data are deployed to map and track the progress and outcomes of both student and teacher subjects. They promote the visibility of student and teacher subjects and identify effective and less effective teacher practices. They reduce the complexity of human experience to numerical form, making it versatile and mobile for translation into different settings (classroom to staffroom) (school to State Department). They produce subjectivities (high/low achievers – students and teachers). They are said to have accuracy (curated in particular ways to describe populations and mobilise arguments for particular strategies for teaching e.g. Visible Learning (Hattie 2009). However, to evoke a metaphor of stage lighting (Wiliam 2001, 21), this accuracy only pertains to what is under the spotlight and there may be other foci illuminated if a floodlight were used. It is important to consider that an intensified focus on particular forms of data can only tell part of the story. The ensuing consequence of a spotlight can be a narrowed curriculum and teachers feeling pressure to narrow their practice to teach to a set of tests (Wiliam 2001).

A collective focus on professional development that can accompany data wall use in schools is a form of soft visible pastoral control which offers a less alienating view of work and labour than top down accountability processes (Schutz 2004). While there are still hierarchical structures, the post-panoptic flows of power are non-authoritarian, with teachers participating in distributed systems where control is disseminated throughout the system and 'not in any centre that monopolises power, knowledge, or control' (Schutz 2004, 16). There is a sense that teachers are agents through the datafication process as they demonstrate agency in professional learning identifying next steps for teaching practice. However, the norms established around the use of data in the school and the use of data walls can also be seen as a reifying technology that makes resistance to their logic difficult, if not impossible.

Post-panopticism and data walls

There is a strong impetus from policy makers to support data wall use in Australia. Examples of peak organisations that promote their use include the Australian Council for Educational Leaders (2019), The Grattan Institute (an Australian public policy think tank) (2015), and The Queensland Government (2017). With limited empirical data detailing robust evaluation of data walls, there is little evidence that can confirm claims about the extent to which data walls actually impact on teaching and learning (Adie, Harris, and Wyatt-Smith 2020). While concerns have been raised that their use can cause stress and humiliation in teachers, and also jeopardise teacher and student privacy, there is little research on the affective impact on teachers (Harris, Wyatt-Smith, and Adie 2020). Moreover, little is known about teacher resistance to their use. Although there is some opposition in regard to the time it

takes to develop and maintain the walls and the issues around the unnecessary duplication of data (The Queensland Teachers' Union 2019), there is little commentary on if and how teachers resist their use in the extant literature.

In the following, I give consideration to how the attributes and associated practices linked with data walls can be seen as post-panoptic. There has been a central shift in technologies in this post-panoptic neoliberal era with surveillance becoming increasingly decentralised (Page 2017a) as biopower circulates through policies, processes, procedures regulating the activities of individuals and communities. School leaders engage in performance reviews where they seek 360 feedback from a range of different sources (Australian Institute for Teaching and School Leadership (AITSL) 2017). Teachers can watch each other in communities of practice, where there are formal and/or informal peer observations and reflective practice processes where teachers provide an account of their practices and decision making processes (AITSL 2014). Student voice can be used as a quality assurance process by which students report on their teachers' performances (Charteris 2019).

Post-panopticism retains panopticism's apparatus, both privileging it and depending on its technologies (Courtney 2016) while it also incorporates the apparatuses and reach of biopower. Post-panopticism enables power to circulate in the interest of producing massification (influencing the actions of a population), and unlike Foucault's conception of panoptic surveillance, it is marked by flexibility and has morphed in purpose. Rather than only disciplining a population into being governable subject who demonstrate sanctioned behaviours, post-panopticism can be deployed to 'constructs and exposes the "incompetence"' of educators (Courtney 2016, 628).

Six key characteristics of post-panoptic regimes and data walls

Six key characteristics of post-panoptic regimes can be applied to the data wall movement and are identified below. I draw from Courtney's six-part definition of post-panopticism to extend these characteristics to consider how the use of data walls in schools is a post-panoptic logic.

Total and conscious visibility

First, panopticism as a technology of power rests on the visibility of subjects. For instance, data can be displayed for the stakeholders (and possibly others) to see. The power of panopticism lies in the conscious visibility of the subjects. By putting faces on the data (photographs of students) (Sharratt and Fullan 2012), we see the connection forced between the subject and object, embedding the data into the teacher and student identities. As a public demonstration of biopower, the data are displayed in public and/or in semi-public spaces. Concerns have been raised around visibility of the data and student privacy, with names and achievement potentially visible to non-school staff (The Queensland Teachers' Union 2015). This can happen when data walls in staffrooms and corridors are visible to all. Australian Departments of Education have indicated that student privacy is to be respected and information could be visible to the public should be deidentified (The Queensland Teachers' Union 2019; New South Wales Government 2020). Nevertheless data wall use produces power relations, with practices around data potentially fostering both equity and

inequities, when particular programs are valued over others and students are profiled and labelled (Adie, Wyatt-Smith, and Harris 2018). For instance, including faces on the data (Sharratt and Fullan 2012), where images sit alongside numeric scores, could profile disadvantaged groups of students by race and class.

Normative stability and flux

Secondly, there is an appearance of normative stability where particular practices are expected and become established. The use of visible data plays a key role in this disciplinary process and it 'sets the agenda by which successful practice is measured, which is a form of normalisation' (Perryman et al. 2018, 147). There is a sense of permanence in its visibility with a positivist reality presented in the data. The use of numbers have a persuasive quality that support biopolitical control. The quantifications are standardised and reliably framed as representing students' levels of achievement in discipline related progressions of learning. Yet these are snapshots of student performance captured through particular measures. Unless the walled data are triangulated with other sources of information, the assessments or tests represented only provide a glimpse of a particular student's achievement on a particular day. Any individual sample of data does not reflect the whole picture of the student.

Data walls can be mandated by school leaders in ways that create normalising sanctions. This can diminish the focus on teaching practices that do not gain traction in the data mapping, and enable close scrutiny of both practice and measurement of student achievement (formal assessments, tests and examinations). Ironically, although the notion of being 'data-driven' implies an erasure of teacher autonomy and agency, teacher judgement is extremely important as these data do not speak for themselves and do need to be contextualised. General trends may be useful to determine, however context is important.

Furthermore, at a macro level, state or national standards for student achievement themselves are not solid and stable. They are set within particular social and historical contexts and reflect the politics and curricula of the time (Baird 2012). These standards that define curricula tend to change over time. So while the data walls appear to represent a stable conception of where students should/could be on a universally accepted normative continua, the progression levels themselves only mark an aspirational set of points that have been determined for those criteria at that period of time.

Emphasis on complying with norms and exposure of non-compliance

There is an expectation of compliance with projected norms that individuals may internalise so that they self-surveil and self-police their behaviour. Moves to promote the collective use of data in schools can be linked with a focus of technologies of the self. Pastoral pressure associated with self-technologies is evident in the visibility of data walls in communal spaces, as there is collective pressure for teachers to ensure shift in the data when it is so apparent. There is potential for peers to judge their colleagues' data when there is no apparent movement, just as peers are able to rally around and support teachers with their puzzles of practice when they are deliberating over their next steps to shift student learning along the data continua configured on the wall.

To be proficient in the self-technologies that are associated with datafication and the use of data walls, teachers need to have the requisite data skills. This has been theorised in the literature as data literacy (Jimerson et al. 2019), assessment literacy (Popham 2009), and assessment capability (DeLuca and Johnson 2017). With the emphasis on leader and teacher accountability in schools, proficiency with data is ‘considered a fundamental competency for all educators’ (DeLuca and Johnson 2017, 121). Data literacy relies on the practitioner’s capability to interpret and curate relevant information from data. However, it can be a challenge for teachers and pre-service teachers, as they need opportunities to acquire mathematical and statistical skills and knowledge in order to work effectively with data (Cowie and Cooper 2017) and then use them to inform practice. Mandinach and Gummer (2016) signal amalgam of skills and knowledge involved in becoming data literate.

Data literacy for teaching... combines an understanding of data with standards, disciplinary knowledge and practices, curricular knowledge, pedagogical content knowledge, and an understanding of how children learn. (Mandinach and Gummer 2016, 367).

Courtney (2016, 629) observes that ‘the goal of post-panopticism is to expose subjects’ inevitable failure to comply’. In a biopolitical process, school communities, school leaders and individual teachers can be held to account on the basis of student achievement data. Therefore, the curation and dissemination of data are not apolitical. Data walls are a powerful technology for exposing areas where teachers may be lacking in expertise and possibly data illiterate, or unsure or unwilling to take up the practices that are measured, especially when there is a trend in the data that is clearly evident. Teachers’ may well experience intense discomfort and negative emotional reactions when these gaps in expertise are publicly profiled (Harris, Wyatt-Smith, and Adie 2020).

Both compliance with performativity and disrupted fabrications

Fourthly, post-panoptic logic disrupt subjects’ fabrications which have been predicated on stability (Courtney 2016). Concerns around teachers’ work reflect ruptures in fabrication with the possibility of teachers, who were previously perceived to be competent, seen as underperforming. It is no longer appropriate to work hard and ensure that children are learning, which would previously have been a fabrication of good teaching. Numerical data are seen as a necessary ingredient in teacher fabrications as there is no other possibility of ascertaining a teacher’s degree of effectiveness and therefore accountability tools are inherent to the process of judgement (Lewis and Holloway 2019). Data walls rupture these fabrications as the emphasis has shifted to doing ‘the right thing’ by ensuring that teaching practices and content align with what is valued and measured.

This emphasis on performativity and compliance contributes to subjects’ fabrications (Ball 2003), where teachers and leaders ‘chase the numbers’ avoid sanctions, censure and/or shame (Datnow, Lockton, and Weddle 2020, 110). There could be narrow forms of teaching practice (‘prepping students for testing’) that focus more on desired results than processes of learning that support less tangible outcomes (e.g. critical and creative thinking and student agency and empathy) (Keddie, Mills, and Pendergast 2011). There can be a narrowing of curricula and pedagogical approaches to discipline practice to conform with assessment practices (Hardy and Lewis 2017). This has long been acknowledged as the ‘corrective potential’ of assessment (Donovan and Cannon 2018). The Queensland Teachers’

Union (2015) have signalled that although data can be used generatively to assist students to goal set and celebrate achievement, they have concerns for both teachers and students when data are profiled for students who are not making adequate progress. They also raise the issue that assessment practice pertaining to data wall use may not be able to capture the complexity associated with student learning.

External standards systematised and internalised

The fifth element pertains to the internal external nexus of the post-panoptic gaze. The process of using data walls implies practices of ongoing data gathering and display. These practices are self-policing as there is an expectation that their ongoing use will enhance performativity and imply a trajectory of individual and collective improvement. Norms and fabrications are self-reinforcing and self-policing, yet there is also a dependency on external 'experts' to produce criteria for achievement. Post-panoptic biopower does not specifically target control over the individual body but rather operates on a level of 'massification instead of individualisation' (Ajana 2005, 2). The biopower serving massification in Australian education (for instance) is mobilised through data walls that are linked with wider systems. Therefore biopower enacted through compliance with the Australian National Curriculum, circulation and maintenance of the Australian Professional Standards for Teachers (Zembylas 2018), compliance with accreditation requirements for Teacher Education institutions with linkages with Preservice Teacher Performance Assessments (Charteris 2019), conformity to standardised schooling provision through instruments like the National Assessment Program – Literacy and Numeracy (NAPLAN) test (Niesche 2015), and the public dissemination of data through the MySchool website, which is a mechanism to publish school achievement data for the purpose of comparison (Mayes 2018). These massified mechanisms of control have external benchmarks for quality control in schools that influence how collectives and individuals manage their behaviour through self-technologies. As illustrations of evidenced based practice, data walls can serve as vital evidence during school inspections that enable authorities to assure a school's quality.

Post-panopticism operationalises markets in education

The sixth element of panopticism reflects the marketisation of teaching and assessment practice as a microcosm of the macro government systems. School wide data are uploaded to Departments in an accountability move and this datafication has a flow down effect so that classroom data are gathered and used for accountability processes. Data walls are an example of 'topological respatialisation' which Lewis and Hardy (2017, 219) describe as a process of 'tracking data' so that teachers are both 'on track' and 'tracked'. They argue that 'what appear to be more "technical" activities and tasks of "using" data are, in fact, actively constituted modes of governance, enabled through and deployed by ongoing practices of comparison and topological respatialisation' (Lewis and Hardy 2017, 219). This governance is market related. Schools are pitted against each other in the MySchool website and in the community's conceptions of what constitute a 'good school'. Therefore the school and its practices are subjected to pressures associated with 'the market'. A narrative is necessarily constructed around educator and student performance through the use of national test data

that translates into the MySchool/league table process (Mockler 2013). Prospective parents compare and rank schools as they engage in their decision making.

In this post-panoptic mix, the discourse of the market promotes a (neo-)conservative agenda which mitigates against the interests of socio-economically disadvantaged students and communities. Parent consumers make schooling choices ‘on the basis of “hard” evidence of relative school effectiveness’ and this marketisation of schools that facilitate choice ‘constructs cultural and social divisions between public schools’ (Rowe and Lubienski 2017, 342).

Keddie (2016) has argued that the construction of students’ identities are aligned with a neoliberal imaginary. She observes that for ‘children of the market’ neoliberal discourses are likely to seem natural and, moreover, even inevitable. Like the children in Keddie’s study, students who interact with data walls experience a visibility of where they organise themselves in ‘response to targets, indicators and evaluations’ and live ‘an existence of calculation’ (Ball 2003, 215). Keddie (2016, 116) writes:

Children actively comply with the demands of performativity through ‘playing the game’... They are, indeed, children of the market; members of a neoliberal generation crafting their identities within this social order’s seemingly natural and normal expectations and rationalities... [They] appear to have mastered the neoliberal repertoires of the self that construct high academic achievement and exceptional performance as the ‘norm’.

The presentation of visual data in classrooms provides children with both a reference point for achievement and a mandate to self-surveil in order to be compliant – ‘targets, indicators and evaluations’ undertake ‘an existence of calculation’ (Ball 2003). Data walls are not separate from the politics of competition that schools can be immersed in. Schools are located in a wider social and political milieu that require visible standards of education provision. For elite schools there is an impetus to sustain and maintain privileged status through datafication practices that ensure they are achieving high results. For schools that serve disadvantaged communities or are seen to be at risk, datafication practices and data walls are a means of showing an audit trail that ‘interventions’ are happening. They serve to create trackable subjects. The stakes are high for these schools to ensure positive public perception and a convincing narrative that they are ‘making a difference’ in student learning outcomes so that the public see them as effective and they can compete for students. Moreover, there can be a layering of social justice discourse where data walls are deployed to ‘make a difference’ for disadvantaged students in order to provide access to pathways to educational opportunities and the workforce.

Having considered the synergies between data walls and key characteristics of post-panopticism, critical consideration is now given to their use in schools and possible directions for further research are identified.

A critical consideration of data walls use in schools

The last two decades have seen an intensification in data use in the schooling sector. As Sahlberg (para 1) observes: ‘Today the walls of principals’ offices display performance results and data walls in teachers’ lounges highlight whether students have accomplished their learning targets.’ Internationally school leaders are charged with the responsibility of encouraging teachers to become data literate and interrogating meaning from data, which involves using curated information proficiently to enhance student learning (Jimerson, Cho, and

Wayman 2016). Teachers engage with data for a range of reasons that include enhancing teaching practice through professional learning, and locating students on a curriculum related progression of learning to plan for pedagogy that provides specifically targeted opportunities for them to learn.

There has been significant educational change and reform that has led to a teacher centred focus for 'improvement, innovation and change' (Harris 2019, 1). This conception of professionalism alluded to by Harris places an emphasis on responsibility and accountability of teachers so they are at the centre of reform efforts – attributed with 'voice, authority, and agency to create and innovate in ways that they know will make a positive difference to learners' (p. 1). However data walls are such a powerful 'security' mechanism (Foucault 2007) for social control in collaborative professional learning that it raises a question whether there is scope for teacher resistance (agency) to their use. There is scope for further research into how teachers are positioned in relation to data walls and whether their use can be detrimental to teachers and/or students. It is unclear at present whether data walls do actually enhance student achievement through changes to teaching practice. Wyatt-Smith, Harris, and Adie (2018, para 4) highlight how any benefits from data walls are necessarily mediated by student and teacher knowledge and therefore it is hard to gauge the effect of them as tools.

We acknowledge that the kind of data needed to substantiate claims of positive impact is difficult to collect, particularly because data walls do not directly cause student academic improvement... Overall, our finding is that, to date, only scant research attention has been given to examining the impact of data walls on student learning and teaching practice.

The proactive use of data in schools is often targeted at addressing the needs of students who are most disadvantaged. In this vein, it is worthwhile considering whether there is are different roles and uses for data walls in elite and disadvantaged schools. It is important to consider the circumstances in which teachers are judged to be competent (or otherwise) through the use of data walls. In some schools where there is extreme disadvantage teaching can be challenging and shifts in the data may be slow or less visible. Further research into the nexus of class, teachers' work, and the use of data walls is warranted.

There are further questions to be raised around the use of data walls. What is the social and emotional cost of their implementation and, as the gaze narrows on what can be measured with them? How are progressive practices (e.g. opportunities for teachable moments) leached from the classroom, as the focus addresses what is immediately measured and translated into quantifiable outcomes?

Furthermore, little has been written about data walls and the integration of students' evaluative expertise, where students can understand their progression and use their own data, nor is there research on the impact of this visible data on student voice and agency (Adie, Harris, and Wyatt-Smith 2020). With the emphasis on student assessment capability in much of the future focused education literature, where students are active agents in the classroom who are supported through formative assessment to make decisions during their learning process (Charteris and Smardon 2019), it is important to consider the impact of data walls on students' psychological safety and their resilience as learners (Harris, Wyatt-Smith, and Adie 2020).

The link between post-panopticism in education and data wall described here highlights the powerful nature of datafication in schools, how it serves as a means to constitute a

compliant workforce who are 'philosophically responsive to the needs of the performative state' (Wilkins and Wood 2009, 294). It is timely to critically consider the use of data walls for the professional values they embody and also for their position in the suite of technologies that produce biopolitical relations in schools.

Conclusion

Data walls can be seen as a collective mechanism which produces biopower through its alignment with panoptic disciplinary power in schools. This conjunction of the disciplinary and biopolitical operate directly on the bodies and subjectivities of leaders, teachers, and students. In summary, data walls adhere to six key characteristics of post-panopticism. Firstly, there are relations of power in which subjects make themselves visible to others. Secondly, there is a sense of normative clarity and permanence, yet ironically these norms are not as stable as they appear. Thirdly, there is expectation of compliance with the established norms and hooks and mechanisms which are designed to signal where groups and individuals are under performing. Fourthly, there is recognition of the logic of performativity and a focus on disrupting individuals' fabrications as they attempt to conform to the school audit culture. The fifth characteristic pertains to how external criteria like Standards and benchmarks are systematised and internalised by practitioners so that they self-surveil and self-police their behaviour. Lastly, and importantly, as biopower is a politics of society, educational markets are supported and sustained through the post-panoptic gaze. At the meso level, making data visible ensures that teachers are accountable to leaders, peers, and ultimately themselves with their performance trends publicly profiled.

At a macro level schools make their performance visible for audit purposes e.g. school inspections. Visibility enables schools to compete for students in systems that profile school data to facilitate parental choice of institution. (Of course this is a class issue as only those parents who are affluent enough to be mobile and afford travel or own real estate in elite suburbs can make this decision) (Rowe and Lubienski 2017). Therefore, in addition to the micro level benefit of individual students having teachers who can clearly identify their learning needs, the analysis of classroom data is a means to ensure visible improvement is happening so that schools can remain competitive in the market. This is a biopolitical technology of competition.

With so little written about post-panopticism and data walls respectively, it is timely to consider how the notion of the panopticon is shot through biopower and has morphed to incorporate the intensified market logic of neoliberalism. This article moves the literature forward through applying an analytical framework of post-panopticism to data wall use in educational contexts. Moreover, the application of post panopticism to datafication practices described indicate an agenda for future research. This paper has extended Page's (2017a) argument around the devolution of power in schools, illustrating how data walls are a surveillance practice that circulate as a technology of control across vertical, horizontal and interpersonal spheres. It has built on Courtney's (2016) conceptualisation to illustrate how data walls are a post-panoptic technology that have become embedded in the routinised work of teachers in the schools where they are used. Extending Perryman et al. (2018) work on the post-panopticism of inspection regimes in the UK, this article illustrates how post-panoptic technologies can both expose areas of teachers' non-compliance and at the same time foster self-policing practices.

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References

- Adie, L., L. Harris, and C. Wyatt-Smith. 2020. "Examining Research into the Use of Data Walls for Teaching and Learning: How Are They Being Implemented within Data Use Cycles?" *Teaching and Teacher Education* 89: 103012–103016. doi:10.1016/j.tate.2019.103012.
- Adie, L., C. Wyatt-Smith, and L. Harris. 2018. "Data Walls: Privacy, Psychological Safety, and Workload." *Newsmonth* 38 (6): 6. <https://search.informit.com.au/documentSummary;dn=924840285970558;res=IELHSS;subject=Copyright>.
- Ajana, B. 2005. "Surveillance and Biopolitics." *Electronic Journal of Sociology* 7: 1–15.
- Australian Council for Educational Leaders. 2019. "Clarity: What Matters most in Learning, Teaching, and Leading." <https://www.acel.org.au/ACEL/ACELWEB/Webinars/2020/Clarity/About.aspx>
- Australian Institute for Teaching and School Leadership. 2014. "Looking at Classroom Practice." https://www.aitsl.edu.au/docs/default-source/teach-documents/looking-at-classroom-practice-revised.pdf?sfvrsn=7b45f63c_4
- Australian Institute for Teaching and School Leadership. 2017. "See your Leadership from New Perspectives: Discover More with the 360° Reflection Tool." <https://www.aitsl.edu.au/lead-develop/develop-yourself-as-a-leader/360-reflection-tool>
- Baird, J. 2012. "Educational Assessment Standards: Should they be Consistent Over Time?" https://www.sqa.org.uk/sqa/files_ccc/EducationalAssessmentStandards.pdf
- Ball, S. J. 2003. "The Teacher's Soul and the Terrors of Performativity." *Journal of Education Policy* 18 (2): 215–228. doi:10.1080/0268093022000043065.
- Bentham, J. 1791. *Panopticon: Or, the Inspection-House*. Dublin: Thomas Byrne. (Ebook). https://books.google.co.uk/books/about/Panopticon_Or_the_Inspection_House.html?id=NM4TA-AAAQAAJ&redir_esc=y.
- Charteris, J. 2019. "Applying post concepts: Theorizing voice and power with Foucault, Butler, and Deleuze and Guattari." https://link.springer.com/referenceworkentry/10.1007%2F978-981-13-1179-6_25-1
- Charteris, J., and D. Smardon. 2019. "Dimensions of Agency in New Generation Learning Spaces: Developing Assessment Capability." *Australian Journal of Teacher Education* 44 (7): 1–17. <https://ro.ecu.edu.au/ajte/vol44/iss7/1>. doi:10.14221/ajte.2019v44n7.1.
- Courtney, S. J. 2016. "Post-Panopticism and School Inspection in England." *British Journal of Sociology of Education* 37 (4): 623–642. doi:10.1080/01425692.2014.965806.
- Cowie, B., and B. Cooper. 2017. "Exploring the Challenge of Developing Student Teacher Data Literacy." *Assessment in Education: Principles, Policy & Practice* 24 (2): 147–163. doi:10.1080/0969594X.2016.1225668.
- Datnow, A., M. Lockton, and H. Weddle. 2020. "Redefining or Reinforcing Accountability? An Examination of Meeting Routines in Schools." *Journal of Educational Change* 21 (1): 109–134. doi:10.1007/s10833-019-09349-z.
- DeLuca, C., and S. Johnson. 2017. "Developing Assessment Capable Teachers in This Age of Accountability." *Assessment in Education: Principles, Policy & Practice* 24 (2): 121–126. doi:10.1080/0969594X.2017.1297010.

- Donovan, M. K., and S. O. Cannon. 2018. "The University Supervisor, edTPA, and the New Making of the Teacher." *Education Policy Analysis Archives* 26: 28. doi:10.14507/epaa.26.2849.
- Foucault, Michel. 2003. "Society must be defended.": *lectures at the Collège de France 1975–1976*. New York: Picador.
- Foucault, Michel. 2007. *Security, territory, population: lectures at the Collège de France, 1977–1978*. New York: Springer.
- Foucault, M. 1977. *Discipline and Punish: The Birth of the Prison*. London: Penguin Books.
- Foucault, M. 1988. *Technologies of the Self: A Seminar with Michel Foucault*. London: Tavistock Publications.
- Hardy, I., and S. Lewis. 2017. "The 'Doublethink' of Data: educational Performativity and the Field of Schooling Practices." *British Journal of Sociology of Education* 38 (5): 671–685. doi:10.1080/01425692.2016.1150155.
- Harris, A. 2019. "Introduction." In *CLARITY: What Matters MOST in Learning, Teaching and Leading*, edited by L. Sharratt, 1–6. Thousand Oaks, CA: Corwin.
- Harris, L., C. Wyatt-Smith, and L. Adie. 2020. "Using Data Walls to Display Assessment Results: A Review of Their Affective Impacts on Teachers and Students." *Teachers and Teaching* 26 (1): 50–66. doi:10.1080/13540602.2020.1739018.
- Hattie, J. 2009. *Visible Learning: A Synthesis of over 800 Meta-Analyses Relating to Achievement*. London: Routledge.
- Jarke, J., and A. Breiter. 2019. "Editorial: The Datafication of Education." *Learning, Media and Technology* 44 (1): 1–6. doi:10.1080/17439884.2019.1573833.
- Jimerson, J. B., V. Cho, and J. C. Wayman. 2016. "Student-Involved Data Use: Teacher Practices and Considerations for Professional Learning." *Teaching and Teacher Education* 60: 413–424. doi:10.1016/j.tate.2016.07.008.
- Jimerson, J., V. Cho, K. Scroggins, R. Balia, and R. Robinson. 2019. "How and Why Teachers Engage Students with Data." *Educational Studies* 45 (6): 667–691. doi:10.1080/03055698.2018.1509781.
- Jones, L., G. Stall, and D. Yarbrough. 2013. "The Importance of Professional Learning Communities for School Improvement." *Creative Education* 04 (05): 357–361. doi:10.4236/ce.2013.45052.
- Keddie, A. 2016. "Children of the Market: performativity, Neoliberal Responsibilisation and the Construction of Student Identities." *Oxford Review of Education* 42 (1): 108–122. doi:10.1080/03054985.2016.1142865.
- Keddie, A., M. Mills, and D. Pendergast. 2011. "Fabricating an Identity in Neo-Liberal Times: performing Schooling as 'Number One.'" *Oxford Review of Education* 37 (1): 75–92. doi:10.1080/03054985.2010.538528.
- Lewis, S., and I. Hardy. 2017. "Tracking the Topological: The Effects of Standardised Data upon Teachers' Practice." *British Journal of Educational Studies* 65 (2): 219–238. doi:10.1080/00071005.2016.1254157.
- Lewis, S., and J. Holloway. 2019. "Datafying the Teaching 'Profession': Remaking the Professional Teacher in the Image of Data." *Cambridge Journal of Education* 49 (1): 35–51. doi:10.1080/0305764X.2018.1441373.
- Mandinach, E. B., and E. S. Gummer. 2016. "What Does It Mean for Teachers to Be Data Literate: Laying out the Skills, Knowledge, and Dispositions." *Teaching and Teacher Education* 60: 366–376. doi:10.1016/j.tate.2016.07.011.
- Marsh, J. A., C. C. Farrell, and M. Bertrand. 2016. "Trickle-down Accountability: How Middle School Teachers Engage Students in Data Use." *Educational Policy* 30 (2): 243–280. doi:10.1177/0895904814531653.
- Mayes, E. 2018. "The Ontological Plurality of Digital Voice: A Schizoanalysis of Rate My Professors and Rate My Teachers." In *Principles of Transversality in Globalization and Education*, edited by D. Cole and J. P. N. Bradley, 195–210. Singapore: Springer.
- McKnight, L., and A. Morgan. 2020. "A Broken Paradigm? What Education Needs to Learn from Evidence-Based Medicine." *Journal of Education Policy* 35 (5): 648–684. doi:10.1080/02680939.2019.1578902.

- McKnight, L., and B. Whitburn. 2020. "Seven Reasons to Question the Hegemony of Visible Learning." *Discourse: Studies in the Cultural Politics of Education* 41 (1): 1–13. doi:10.1080/01596306.2018.1480474.
- Mockler, N. 2013. "Reporting the 'Education Revolution': MySchool.edu.au in the Print Media." *Discourse: Studies in the Cultural Politics of Education* 34 (1): 1–16. doi:10.1080/01596306.2012.698860.
- Neumann, E. 2021. "Setting by Numbers: Datafication Processes and Ability Grouping in an English Secondary School." *Journal of Education Policy* 36 (1): 1–23. doi:10.1080/02680939.2019.1646322.
- New South Wales Government. 2020. "Secretary's Update." <https://education.nsw.gov.au/news/secretary-update/every-student-podcast-sally-egan>
- Niesche, R. 2015. "Governmentality and my School: School Principals in Societies of Control." *Educational Philosophy and Theory* 47 (2): 133–145. doi:10.1080/00131857.2013.793925.
- Ozga, J. 2009. "Governing Education through Data in England: From Regulation to Self-Evaluation." *Journal of Education Policy* 24 (2): 149–162. doi:10.1080/02680930902733121.
- Ozga, J., C. Segerholm, and H. Simola. 2011. "The Governance Turn." In *Fabricating Quality in Education: Data and Governance in Europe*, edited by J. Ozga, P. Dahler-Larsen, C. Segerholm, and H. Simola, 85–95. London: Routledge.
- Page, D. 2017a. "The Surveillance of Teachers and the Simulation of Teaching." *Journal of Education Policy* 32 (1): 1–13. doi:10.1080/02680939.2016.1209566.
- Page, D. 2017b. "Conceptualising the Surveillance of Teachers." *British Journal of Sociology of Education* 38 (7): 991–1006. doi:10.1080/01425692.2016.1218752.
- Page, D. 2018. "Conspicuous Practice: Self-Surveillance and Commodification in English Education." *International Studies in Sociology of Education* 27 (4): 375–390. doi:10.1080/09620214.2017.1351309.
- Perryman, J., M. Maguire, A. Braun, and S. Ball. 2018. "Surveillance, Governmentality and Moving the Goalposts: The Influence of Ofsted on the Work of Schools in a Post-Panoptic Era." *British Journal of Educational Studies* 66 (2): 145–163. doi:10.1080/00071005.2017.1372560.
- Popham, W. J. 2009. "Assessment Literacy for Teachers: Faddish or Fundamental?" *Theory into Practice* 48 (1): 4–11. doi:10.1080/00405840802577536.
- Renshaw, P., A. Baroutsis, C. van Kraayenoord, M. Goos, and S. Dole. 2013. *Teachers Using Classroom Data Well: Identifying Key Features of Effective Practices. Final Report*. Brisbane: The University of Queensland.
- Rose, N. 1991. "Governing by Numbers: Figuring out Democracy." *Accounting Organizations and Society* 16 (7): 673–692. doi:10.1016/0361-3682(91)90019-B.
- Rowe, E., and C. Lubienski. 2017. "Shopping for Schools or Shopping for Peers: public Schools and Catchment Area Segregation." *Journal of Education Policy* 32 (3): 340–356. doi:10.1080/02680939.2016.1263363.
- Sahlberg, P. 2016. "The Global Educational Reform Movement and Its Impact on Schooling." In *Handbook of Global Education Policy*, edited by K. Mundy, A. Green, B. Lingard, and A. Verger, 128–144. Oxford: Wiley.
- Schutz, A. 2004. "Rethinking Domination and Resistance: Challenging Postmodernism." *Educational Researcher* 33 (1): 15–23. doi:10.3102/0013189X033001015.
- Sharratt, L., and M. Fullan. 2012. *Putting Faces on the Data: What Great Leaders Do!* Thousand Oaks, CA: Corwin & Ontario Principals' Council.
- Singh, P. 2018. "Performativity, Affectivity and Pedagogic Identities." *European Educational Research Journal* 17 (4): 489–506. doi:10.1177/1474904117726181.
- Singh, P., J. Allen, and L. Rowan. 2019. "Quality Teaching: standards, Professionalism, Practices." *Asia-Pacific Journal of Teacher Education* 47 (1): 1–4. doi:10.1080/1359866X.2019.1557925.
- Takayama, K., and B. Lingard. 2019. "Datafication of Schooling in Japan: An Epistemic Critique through the 'Problem of Japanese Education.'" *Journal of Education Policy* 34 (4): 449–469. doi:10.1080/02680939.2018.1518542.
- The Grattan Institute. 2015. "Targeted Teaching: How Better Use of Data Can Improve Student Learning." <https://grattan.edu.au/wp-content/uploads/2015/07/827-Targeted-Teaching.pdf>

- The Queensland Government. 2017. "Managing the Performance of Teachers in Queensland State Schools." https://www.qao.qld.gov.au/sites/default/files/reports/managing_performance_of_teachers_in_queensland_state_schools_report_15-2016-17.pdf
- The Queensland Teachers' Union 2015. "Position Statement. The Purpose and Use of Data in Queensland Schools." <https://www.qtu.asn.au/ps-data>
- The Queensland Teachers' Union. 2019. "QTU News and Information." https://www.qtu.asn.au/application/files/2815/6825/0998/Nflash_16-19.pdf
- Wiliam, D. 2001. "Reliability, Validity, and All That Jazz." *Education 3-13* 29 (3): 17–21. doi:10.1080/03004270185200311.
- Wilkins, C., and P. Wood. 2009. "Initial Teacher Education in the Panopticon." *Journal of Education for Teaching* 35 (3): 283–297. doi:10.1080/02607470903092821.
- Wyatt, T. 2017. "Developing Evaluative Thinking and Evidence Based Practice: A Synthetic Case Study." https://pdfs.semanticscholar.org/6a8a/141b29a47f95ec9b4fd7c5f4c2e0cb69a192.pdf?_ga=2.82178577.649077433.1563915948-466000787.1557787330
- Wyatt-Smith, C., L. Harris, and L. Adie. 2018. "Data Walls: Examining the Evidence of Impact." *Newsmonth* 38: 5. <http://publications.ieu.asn.au/newsmonth-29/feature1>.
- Zembylas, M. 2018. "Professional Standards for Teachers and School Leaders: *Interrogating* the Entanglement of Affect and Biopower in Standardizing Processes." *Journal of Professional Capital and Community* 3 (3): 142–156. doi:10.1108/JPC-12-2017-0029.