**How new data-centric environments in schools and schooling systems are transforming teaching, learning and leading**

There has been a significant increase in data collection and use in education globally, reflecting the relevance of numbers (Ozga, 2016) and data (Selwyn, 2015) for purposes of measuring, comparing and governing schooling performance. As education becomes a key target of this ‘data deluge’ (Anderson, 2008), we must contend with how this paradigm shift is transforming teaching, learning and leadership in radical ways. Drawing across a variety of empirical and theoretical dimensions, this panel will explore how new data-centric environments are shaping the material and discursive conditions by which students, teachers and school leaders are constituted.

**Paper 1**

**The rise of new shadow professionals and infrastructures within the datafied schooling system**

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Responding to a rising body of critical research on the datafication of schooling (Landri 2018, Lewis and Holloway 2019, Williamson 2017), this paper examines the infrastructures, people and practices emerging around the ‘datafied’ monitoring of schools and systems. Such infrastructures have fostered new types of professionals who can determine data quality (e.g., ‘data stewards’ or ‘error managers’), as well as producing new relational, or topological, spaces of data measurement and governance (Gulson and Sellar 2019, Hartong 2018, Lewis, Sellar, and Lingard 2016). Drawing on thinking around the ‘becoming topological’ (Lury et al. 2012) of contemporary social spaces, we explore these data-focused professionals and their practices within an influential national infrastructure of school monitoring in the US, EdFacts. Our analyses provide not only empirical insights into the who and how of datafication, but also outline a conceptual approach to understand how datafication is significantly reshaping the governance of schooling systems.

**Paper 2**

**School Data and the Production of the ‘Good’ Principal**

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Stephanie Wescott, Monash University, Australia

This paper explores the ways datafied schooling policies and practices have shaped what it means to be a ‘good’ principal in Australian schools. Within an explicit push for school improvement, data ostensibly provides an opportunity to judge schools (and by extension, principals’) work and their success (Sellar & Lingard, 2013; Selwyn, 2016). This paper draws upon data from a national study into principal autonomy and accountability to examine the practices of leaders who comply with and contest the constitution of a successful principal as one who delivers relentless improvement on clearly-defined measurable outcomes (Hardy, 2014; Heffernan, 2018). We explore the affective dimensions of heavy external accountabilities driven through data and offer alternative ways of defining successful leadership that is sustainable, ethical, and grounded in relationships within complex schooling environments.

**Paper 3**

**Data, Discretion and Democracy: What is Teacher Expertise?**

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As we find ourselves in a world where extreme political groups are using ‘alternative facts’ to promote objectively dangerous agendas, there is a renewed imperative to define expertise and to establish its necessity for informing policy decisions (Nichols, 2017). Looking specifically at teachers, I question the role of expertise in liberal democracies. After conceptualizing the structural and epistemic dimensions of teacher expertise, I show how contemporary modes of evaluation and datafication (Lupton & Williamson, 2017) (1) constrain the discretionary space for teachers to practice as professional experts, and (2) restrict schools’ capacities to respond to the changing and emerging needs of their students. Rather than focus on the technical/commercial aspects of datafication, or the structural dimensions of discretion, I problematise the epistemic qualities of datafication as being a ‘logical’ response to democratic motivations, but which are counterproductive for achieving the justice-oriented ideals that progressive and inclusive democracies require.

**Paper 4**

**The situated experience of the datafied and disappearing child in today’s classrooms**

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As education systems become progressively consumed with collecting, tracking and analysing student academic performance data, a gradual yet radical shift in our construction of what is ‘educationally desirable’ (Biesta, 2010) is occurring. Within this paradigm shift, children are becoming the objects of intense and intimate surveillance and measurement through mechanisms of datafication (Bradbury & Roberts-Holmes, 2018), turning schools into ‘data platforms’ (Williamson, 2015). As educational research grapples with the proliferating impacts of datafication on schooling systems and governance, and on teaching and leading, the situated experience of students in this new culture has been relatively neglected. This paper presents the perspectives and experiences of 53 students from Year 3 through to Year 9 obtained through ongoing focus group conversations and observations in two public schools in Queensland. Taking a ‘site’ ontological approach and utilising the Theory of Practice Architectures (Kemmis et al. 2014), I elaborate how the material-economic, cultural-discursive and socio-political conditions in the two sites are datafying assessment practices and transforming the experience of students, including how they see themselves and their capacity to learn. I argue that despite the relentless efforts of educators, the advent of datafication has rendered the students in classrooms as units of ‘moving’ data used to assess and evaluate schools and education systems.