THE QUANTIFICATION OF EDUCATION AND THE REORGANISATION OF TEACHERS' WORK: AN INSTITUTIONAL ETHNOGRAPHY

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BA BBus GradDipEd MEd (Research)

Submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

Faculty of Education

Queensland University of Technology

2017

Keywords

Accountability, Assessment, Australian education; Education; Education data; Globalisation, Institutional ethnography; NAPLAN; New public management; Quantification of education; Sociology of education; Sociology of numbers; Teachers' work

Abstract

This thesis explores how the everyday work of teachers is organised by powerful interconnected global, national and subnational power relations that rely on the quantification of education. The research reports on the experiences of 24 teachers in two Australian schools – one secondary school and one primary school – as they worked with various forms of educational statistics. The study used an institutional ethnographic method of inquiry to empirically trace how teachers' work was connected to power relations that operated from beyond their local schools through the multiplicity of texts and discourses prioritising the quantification of education. To do so, the research also drew on data collected from school leaders working in an additional four schools. In mapping "how things work" at the local level, a range of texts were collected and analysed including school documents and work-samples; departmental and government policies. The study explicates how teachers' work is connected to chains of texts that enforce the production and collection of educational data by linking numbers to funding and performance management. These texts have a significant role in organising teachers' work both in and out of the classroom across the school year. In the classroom, this included a reorientation of pedagogy, curriculum and assessment towards content tested in high-stakes tests such as Australia's National Assessment Programme – Literacy and Numeracy (NAPLAN), as well as the collection of additional local data and regular in-school testing. Outside of the classroom, teachers are undertaking a range of calculative work including the analysis and recording of statistics and participation in new forms of work such as so-called "data conversations" and meetings. While public and institutional discourses often frame teachers' work in terms of individual performativity, suggesting that decisions to teach to the test are made by individuals, this research demonstrates that key aspects of teachers' work are also orchestrated by external forces through series of texts that flow from governments to bureaucrats and ultimately into schools.

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List of Abbreviations and Glossary

ABS   Australian Bureau of Statistics

ACARA   Australian Curriculum, Assessment and Reporting Authority. (Note that many of the teacher participants in this study who refer to ACARA are referring to the Australian Curriculum).

ACER   Australian Council for Educational Research

AHELO   Assessment of Higher Education Learning Outcomes

ARC   Australian Research Council

ARD-SP   Assistant Regional Director – School Performance

Catchment area Queensland state schools use a "catchment area" policy to "ensure every Queensland student from Prep – Year 12 is able to enrol at their local state school" (Queensland Government, 2016). The department defines local state schools as the "school (primary or secondary) which is closest to your home. This is measured by the shortest, most direct route by road—to and from the main entrance of the school" (Queensland Government, 2016). Students are guaranteed entry into their local school but can also apply for an "out of catchment enrolment" although application acceptance is not guaranteed.

C2C   Curriculum into the Classroom. C2C is a suite of planning resources produced by the Queensland Department of Education and Training to support teachers in the delivery of the Australian Curriculum by providing lesson plans, unit plans, year-level plans, whole-school plans and so on. The materials are also used in non-government school sectors (such as Catholic and independent schools).

DETE   Department of Education, Training and Employment (Queensland).

ESL   English as a Second Language

EQ   Education Queensland

GRG   Great Results Guarantee. The GRG was a Queensland state education funding policy (2014-2015) that distributed federal funds from the Students First program to schools. All Queensland state schools received funding on the proviso that they would either guarantee that every student would achieve National Minimum Standards (NMS) on NAPLAN year levels, or "have an evidence-based plan in place to address students' specific learning needs" (Queensland Government, 2014a).

HOC	Head of Curriculum
HOD	Head of Department
ICSEA	Index of Community Socio-Educational Advantage
IPS	Independent Public School

Like Schools   Refers to definition as used by ACARA for reporting on the *My School* website: "Like schools are schools serving students from statistically similar backgrounds. Factors used to determine a group of similar schools are the socio-educational backgrounds of the students' parents, whether the school is remote, the proportion of Indigenous students, the proportion of students from a language background other than English, or a combination of these factors. These factors are used to create an ICSEA value for each school". Early iterations of *My School* used the term "statistically similar" schools. In 2016, the site used the term "similar schools".

MCEEDYA   Ministerial Council for Education, Early Childhood Development and Youth Affairs

MCEETYA   Ministerial Council on Education, Employment, Training and Youth Affairs

NAPLAN   National Assessment Program – Literacy and Numeracy

NMS   National Minimum Standard

NRA   National Reform Agenda

OECD   Organisation for Economic Cooperation and Development

OneSchool   Education Queensland's online database that has data in five key areas:
1. student management
2. curriculum and learning management
3. finance and asset management
4. resource management
5. performance, reporting and analysis.

OP   Overall Position. This score is used for tertiary entrance at the end of senior schooling.

PAT   Progressive Achievement Tests. PAT tests are a series of "nationally normed" produced and sold by the Australian Council for Educational Research (ACER). According to ACER, in 2013 more than 4,000 schools across Australia used PAT as part of their regular assessment

practice, with around two million PAT assessments administered each year. Further information available from: https://www.acer.edu.au/pat

PD   Professional development

PISA   Programme for International Student Assessment

QCAA   Queensland Curriculum and Assessment Authority. Formerly known as Queensland Studies Authority (QSA).

QCS   Queensland Core Skills test. This test is a state-wide test completed by all year twelve students who are eligible for an OP (and optional for tertiary rank students) that will be used to gain entrance into tertiary study.

QTU   Queensland Teachers' Union of Employees

WTW   *Words Their Way* (Bear, Invernizzi, Templeton & Johnston, 2008). WTW is produced as a suite of resources by global education publisher, Pearson as a series of books and resources for teaching and assessing students' spelling from prior to kindergarten through to college and university.

Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

QUT Verified Signature

Signature:

Date: 23 March 2017

Acknowledgements

I am sincerely indebted to my supervisory team – Suzanne Carrington, Barbara Comber, Val Klenowksi and Jess Harris. Your belief in me, your helpfulness and willingness to listen, share your wisdom and provide support have been amazing. I am so thankful that you not only agreed to be my supervisors, but that you have treated me with such respect and kindness throughout this journey. Barbara and Val – you have both supported and believed in me for many years now, and I am truly grateful. You are incredible scholars with much insight, and I'm blessed to have learned from you.

I have been fortunate to have worked and studied at QUT. The education faculty is run by a group of wonderful and supportive people who continue to provide inclusive opportunities for PhD students. To my fellow PhD colleagues – Sandra, Jen, Chris and everyone both in and beyond the B Block corridor – thank you for your friendship, lively conversations and encouragement. So many people have welcomed me into the faculty over the years, treating me as an equal, even when I was an absolute novice. Allan Luke provided me with the most incredible training ground, and I'm truly grateful. I also acknowledge the support of the ARC, and everyone of the ARC project team, in particular Jess Harris and Mel Ainscow, who shared their expertise so freely with me and from whom I learned a lot. My head of school, Suzanne Carrington never ceases to amaze me with her generosity and kindness. I have worked in enough organisations over the years to know that these are rare qualities in a leader.

I also extend my sincere thanks to my final oral panel of A/Professors Cathie Doherty, Greg Thompson and Jen Alford, who provided valuable and constructive feedback on my research. I genuinely appreciate your thoroughness, and incredible theoretical and methodological insights. I also thank my confirmation panel of A/Professors Linda Graham and Radha Iyer who provided similarly valuable advice and feedback, and who helped to shape my research journey.

This research would not have been possible were it not for the generosity and honesty of the participants in this study. Their dedication to their students and to their profession is incredible: I hope I have done them justice in this work. I am forever amazed by the many wonderful teachers I know (Susan and Sam I'm looking at you!) who are passionate about their work and give so much of themselves to their students, their families and their friends. Thank you.

I would also like to acknowledge the theoretical contributions of Dorothy E. Smith, Alison Griffith, Marie Campbell, Marjorie DeVault, Liza McCoy, Lindsay Kerr and so many others whose work has been an inspiration; and the foundation of this study. Although I still feel like a novice, I hope to continue to learn, and to contribute to a growing institutional ethnographic literature in years to come.

Last, but certainly not least, I thank my dear family with all my heart. Thank you for your reassurance, tolerance and love throughout this journey. To Salvo: Thank you for your patience and never ending support (not to mention the endless meals and coffees!). To my two daughters, Gabby and Lainey: You mean everything to me – I'm so proud of you and all your achievements, but mostly because you are YOU – funny, kind, caring, intelligent, generous, talented and totally lovable. Really, thank you for everything.

Dedication

To Nonna

February 1926 – September 2016

Chapter 1: Boom! And it's all about data

1.1   INTRODUCTION

> Well my first comment is that data is the new, dirty four-letter word. You
> know, it was just like, BOOM! And it's all about data"
>
> > - Rosa, primary school teacher
>
>
> I guess my life revolves around data these days. It has to because it is
> everything.
>
> > - Jennifer, primary school teacher and head of curriculum

Jennifer and Rosa, two teachers who took part in this research, along with many
other teachers in the research, reported on what they perceived to be significant
changes to their work that had occurred over the past decade. Rosa, who had been
teaching for over 30 years, said that she was used to "things coming and going" in
education and that during her career she had experienced a steady ebb and flow of
policy change. Although she was used to seeing different approaches to curriculum
and pedagogy come and go, in the last five to ten years it had become apparent to
Rosa and her teaching colleagues that although data was a "new 'thing' in the cycle
of 'things'", it was also substantially different. Unlike curricula or pedagogic fads,
data was underpinning a larger, and more permanent paradigmatic shift in education.
According to Rosa, data was the one "thing" that would not go away. "No way," she
said.

   This thesis presents the findings from an institutional ethnographic investigation
that used the experiences of teachers working in two schools as the *point d'appui*
(Campbell, 1998, p. 55) for a sociological analysis investigating how teachers'
everyday work is hooked into wider sets of power relations. The analytic project
maps how a complex network of texts (in which the quantification of education is
central to the ideological code) works to orchestrate the daily, embodied experiences
of teachers in two different schools. Smith (1993) describes an ideological code as
"a schema that replicates its organization in multiple and various sites...[to] generate
the same order in widely different settings of talk or writing – legislative, social

scientific, popular writing, administrative, television advertising, and whatever." (pp. 51 – 52).

1.2 HOW THE PROBLEM OF "DATA" BECAME PROBLEMATIC

> Researching educational data – its purposes, uses and interpretation is a key priority for governments and policy makers right now. Through consultations with schools, the department's research branch has found that "data use" is a priority, and is being emphasised not only by the department, but also by school leadership teams. However, very little is known about how schools and teachers collect, analyse and interpret data, other than that it is done with varying degrees of ability. Little is known about what is going on in schools. Much more research is needed.
>
> - Field notes from "Research in State Schooling" presentation by Department of Education, Training and Employment (DETE) Research Services branch, 10 March, 2014.

The research presented in this thesis was sparked from an interest in teachers' work with "data" in neoliberal times, and from a sociological interest in tracing this work back to the wider power relations that are driving it. In January 2014, I attended the Queensland education department's annual "Research in Queensland State Education Sites" seminar. Reflecting on the field notes I had recorded (above), I was less than surprised to hear that "data" and "data use" were a key policy focus in Queensland schools. My awareness of the emphasis on data in schools began whilst I was working as a classroom teacher, at which time I began to sense an increasing insistence upon the importance of large-scale, numerical data in teachers' work.

Whilst working as a classroom teacher with Year 3 students, which included administering the first year of NAPLAN testing in 2008, and attending countless staff meetings that had a singular focus on NAPLAN data, I began to wonder how the purpose and work of an entire school seemed to be focussed around a single set of tests. I had a personal sense that things deteriorated further following the release of the first round of testing which revealed Queensland schools had not fared well in comparison to Victoria and New South Wales. The following year, I recall being advised that Queensland Year 3 teachers needed to "improve their data" by three questions (i.e., this year's students need to answer three more NAPLAN questions

correctly than last year's students). I wondered about the statistical validity of this kind of statement and began to seriously question how data was being used in schools, and whether it was in the best interests of students or teachers. Was "improving data" really the solution for solving the "problem" of having "poor data"? Why were school meetings focussed around what seemed to me to be a nebulous commodity referred to repeatedly as data, rather than the use of a range of qualitative and quantitative evidence, or supporting teachers in understanding how it could be useful for improving teaching and learning across a broad range of curriculum areas? How did large-scale numerical data become such a "common sense" way of measuring students, teachers, schools, districts and even entire countries?

As I experienced it, there was a way of speaking about data that was seeping out of media and government reports and into my own school and work. In my experience, the language of data was also increasingly being transferred from teachers and school leadership teams to students and parents. When the media ran stories about failing schools, most notably when Queensland's 2008 results were released, it felt as though panic had set in. Parents and students were concerned about how their child's data stacked up against others across the nation. School administrators were focussed on achieving data that could be interpreted favourably (by both governments and parents). Teachers were concerned with balancing pressures to "improve data" whilst maintaining an ethic of care towards students. Now, reflecting back on that time, and in the many conversations I have had with teachers since then, there was a feeling that something bigger was happening, although I didn't know what.

Years later, it was a revelation to me to read the words of feminist sociologists Alison Griffith and Dorothy Smith (2014) who described their motivation for assembling their book *Under New Public Management: Institutional Ethnographies of Changing Frontline Work*, as being to investigate changes in society that were happening "behind our backs" (p. 8). As I commenced the research process, it was evident to me that much of the work I had undertaken was linked to a raft of institutional policies and texts, although I hadn't been aware of this at the time. Analysing these texts as part of the research process also made clear the common

ideological assumptions about marketisation, competition and accountability on which these texts were based.

At the time, the state education department was in the midst of rolling out a new electronic curriculum and assessment tool to all Queensland state schools. This central database, OneSchool, would allow for the collection and management of a wide range of data from student achievement data (used on report cards) to student photos, career aspirations, student behaviour reports and even medical data. The reporting of this system by local media outlets caused concern as parents were "warned" about potential dangers of centrally managed data, such as the risks of paedophiles accessing student information (e.g., O'Loan & Christiansen, 2008).

My own feelings of unease stemmed from my experiences in an educational environment in which data dominated. I had many conversations with colleagues at the time who felt a sense of despair about the changes they were experiencing in their work. My experienced teaching partner felt that cycles of standardised data collection was the "new normal". Yet whilst data was quickly becoming a dirty word amongst my colleagues, it was also something I (and they) used regularly to assess student knowledge and understanding, and to inform teaching practice.

Thus, my own personal reflections that grew out of the standpoint of a classroom teacher were the beginning of this research. I left teaching for a range of reasons, both personal and professional. In part, I hoped to eventually research this phenomenon and to further explore the changes that long-serving teaching colleagues reported. A number of colleagues took early retirement that same year, expressing to me their disappointment in a system they believed now valued data and numbers ahead of their decades of teaching experience.

I worked for a short time as a lecturer and tutor in a field studies unit at a local university. During this time, Australia was in the process of enacting a new national curriculum, with Queensland's state schools trialling an approach known as C2C ("Curriculum to Classroom") which was largely a scripted version of the curriculum (Petriwskyj, O'Gorman, & Turunen, 2013). Pre-service teachers reported that various forms of data continued to dominate staff meetings, school decision making and teachers' work. This was particularly noticeable given that various iterations of the departmental database OneSchool had been rolled out, enabling new data to be collected and analysed at school and state levels. A consultant on the OneSchool

project at the time said that prior to its introduction, "each school kept individual, often paper-based student … records that were neither shared nor standardised" (Agresso Australia, 2014, p. 2). In this landscape, pre-service teachers expressed to me their concerns about how their students' data would be compared with other classes, and how this data would be used to construct their identities as teachers. What would it mean if a class did not fit an expected "bell curve" of results? Did poorly performing students equal poorly performing teachers? Did too many "A" students equal a teacher who could not accurately assess student work? As well as expressing their concerns about how data was used, the pre-service teachers I talked to also voiced their concerns about their ability to generate and decipher the vast amounts of data required by their host schools.

Around the same time, in 2010, I began to work as a research assistant on a number of projects including a major national investigation of an Indigenous education reform program, *The Stronger Smarter Learning Communities (SSLC) Evaluation.* During that time, I had the opportunity to conduct field work in schools that were a part of the network, where I saw a proliferation of data walls, spreadsheets and the like. Across a number of states, I observed lessons and assessment items that were heavily linked to NAPLAN testing. For example, I recorded geography, English and social science assignments that were framed around the NAPLAN requirement for students to write using the persuasive genre. School leaders spoke at length about how they were addressing various data "problems", most commonly student achievement and attendance.

My work also put me in the privileged position of being able to talk to Indigenous students who attended schools within the network. Listening to a group of Indigenous students speaking about their embodied experience of assessment and attendance demonstrated that objectified ways of knowing are not always the same as embodied ways of knowing. For example, while teachers and principals talked about attendance data as a problem to be solved, one student who was mourning the death of an Aunty, and had taken time off school said "everything's been happening this last week … [The teachers] aren't recognising that we hurt … They *are* recognising that we're away from school a lot" (Luke et al., 2013, pp. 112-113).

During that time, I also undertook a masters by research study (Spina, 2013) to investigate the discursive practices of white teachers as they accounted for their work

with Indigenous students in schools. Being a white researcher working in Indigenous education was not always easy, mostly because I was challenged to question my own assumptions as I analysed how particular "truths" existed in schools, and with what effect. I noticed that just like in my old school, many of the teachers in that study, who were working in a range of primary and secondary schools across Australia, seemed to talk about various kinds of data in a common-sense way; often as a justification for deficit and "colour blind" discourses. Teachers used various kinds of data (e.g., student achievement and medical data) to diagnose what they felt were student deficiencies (p. 71), before employing compensatory pedagogies to rectify perceived problems (p. 95).

Since then, I have continued the conversation with university colleagues, and friends who are classroom teachers. For the past three years, I have worked as a part time research assistant on the Australian Research Council (ARC) Linkage project, "Ethical leadership: A collaborative investigation of equity-driven evidence-based school reform". During this time, I have had the opportunity to talk with teachers and leaders from six schools about the various kinds of data that are part of teachers' everyday work. At a literacy professional development session at one school, I recorded in my field notes:

> At a meeting between teachers from a primary school and local high school, the teachers were asked to look at data sheets for primary school students. As they went through the data, one teacher asked another what "scaled scores" were on his class' "data sheet". Although he had used the scaled data to group students by ability, he said he didn't really know. The group also discussed the data that was available, and wondered if using data that were more than twelve months old was useful. A high school teacher said he routinely uses Grade 9 NAPLAN data to make judgements about classes in Grades 11 and 12. The group discussed why some students' data did not seem to fit their own personal knowledge of the students, but agreed they didn't know and continued the activity of ability grouping students. As the discussion continued, the group began to discuss the ways that schools used data for enrolments. As the session continued, one teacher expressed her concern that some forms of student data were being used as the basis for "not accepting" the enrolments of students into some public schools.

For me, these kinds of conversations demonstrated how standardised data had emerged as a powerful organiser of school operations. Yet it also highlighted the importance of understanding how data is experienced at the local level, and how this might impact on wider issues such as equity and social justice. What are we to make of the students whose enrolments were allegedly "not accepted"? Similarly, it reflected the importance of the departmental research aim of understanding local data use. Did education bureaucrats understand how much time was spent in staff meetings discussing data instead of students, pedagogy or curriculum?

Before the first formal interview for this research, I had been concerned that the phenomenon I was investigating was not clearly defined – after all I wasn't asking questions about a specific form of data such as NAPLAN or senior schooling data. As such, I conducted trials of my interviews with two friends who are teachers. Although we had not discussed my research previously, neither teacher asked for clarification. Instead, we had many long conversations about how data was reorganising their own work and that of their colleagues. The similarities between the two pilot teacher interviews surprised me, since one was a Year 1 teacher in a socio-economically average[1] state school and the other is a secondary teacher at a large, prestigious private school with school fees that are among the most expensive in the state. Similarly, at a national conference of teachers in 2014, I chatted with a number of teachers, and after explaining my research intentions, found that a range of teachers from the around the country also believed that data was now a powerful organiser of their work. At that conference, more than one teacher offered to take part in my research, asking if they could also be interviewed, as they wanted to have their voices heard. Thus even from the earliest days of the research, a picture was emerging in which teachers believed that numerical data was changing both social relations and teachers' work. The teachers who were interviewed for the research were equally passionate, describing the way in which data was orchestrating school life. My early apprehension that perhaps teachers would wonder what specific data I wanted to investigate was unfounded.

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[1] According to the Federal Government's *My School* website.

1.3 DEVELOPING THE PROBLEMATIC

The local beginnings described above led me to wonder about the "problem" of data in education. This being the case, I also wanted to develop a research design that would begin from the standpoint of teachers. I therefore draw heavily on the work of Canadian feminist sociologist Dorothy Smith (1987, 1990b, 1996, 2001, 2003, 2005) who developed a method of inquiry built around the belief that people are the "experts in their own lives" (Campbell & Gregor, 2004, p.111). Institutional ethnography therefore begins in the everyday in order to "make visible" (Smith, 2003, p. 61) the often overlooked work that constitutes daily life, such as waiting in line to photocopy student assessment task sheets before beginning a day of work.

Whilst one purpose of the planned research was to understand and make visible what teachers do with data, institutional ethnography does not begin and end in the experiences of researched subjects. Finding and researching a problematic is essentially a matter of finding a disjuncture "between different versions of reality – knowing something from a ruling versus an experiential perspective" (Campbell & Gregor, 2002, p. 48). Thus, although the research was to be anchored in the embodied experiences of teachers, it was not the endpoint. By making daily work visible, institutional ethnography also provided an opportunity to make complex social and power relations that coordinate that work visible. By starting from the experiences of teachers in multiple local sites, my job was to look at the ways that particular texts and policies were read and acted upon in local sites, before tracing the effects across sites, which can be described as occurring "translocally" (Smith, 2005, p. 227). Institutional ethnography was used to explore the disjunctures between teachers' accounts of data in their everyday work, and the way data are represented in official texts (such as government and school-based policies) and discourses. The method for identifying and mapping these disjunctures is described in Chapter 2.

1.3.1 Early questions

In undertaking this research, I was fortunate to have had the opportunity to work with teachers who are participants in the aforementioned ARC project. This also provided me with the opportunity to undertake the research beginning from the standpoint of teachers working in two of those schools – North Bank Primary and East Side High (pseudonyms). Because this research is a sociological inquiry, the embodied

experiences of teachers working with data was understood as being situated in complex power relations that Smith (1990b) describes as "ruling relations".

Smith (1996) describes ruling relations as a form of power that organises society by tying people into a matrix of relations that extend beyond the local. Smith (1990b, 1997, 2002, 2006a) has written extensively on the role of institutional texts in orchestrating power relations. As Campbell and Gregor (2002) describe, the "capacity for a text to rule" depends on how it "carries messages across sites, coordinating someone's action *here* with someone else's action *there*" (p. 33). The term translocal encapsulates the notion of understanding how local circumstances can be connected with happenings in other local sites; often via texts and discourses that are produced from outside of the local, or extralocally. The analytic work of the research was focussed on unravelling how translocal doings were connected through "empirically traceable connections" (Bisaillon, 2012, p. 613) between schools, bureaucratic and political policies and so on. As became clear during the research process, these connections "are not necessarily obvious or apparent to us, which is why they are objects of critical social inquiry" (p. 613).

Explicating these connections was a key analytic aim of this thesis. I sought to understand how the policies and discourses that insisted on the importance of numerical data in schools were experienced by teachers in their everyday work. As teachers and school leaders explained the processes and practices that formed their work, their words were often imbued with the language inherent in regional, state, national and global policies of enumeration.

The questions guiding the research were therefore:

- What are teachers' experiences of data in their everyday/night work?
- How are the everyday experiences of teachers working with data organised by textually-coordinated ruling relations?

My aim was to explicate how data (including the multitude of policies that seek to quantify education) reorganises teachers' work at the local level, since teachers' work is "carried out at an —intersection between . . . globalising discourses, educational change, and . . . local experiences with schooling" (Griffith & André-Bechely, 2008, p. 42). The aim of the thesis was not to draw conclusions about whether particular statistics are good or bad; but rather, to problematise the

quantification of education and to unpack the way in which the underlying ideological code is experienced at the local level.

1.4 SIGNIFICANCE, SCOPE AND DEFINITIONS

According to Porter (2012), there has been a limited history of numbers, despite the increasing role of quantification in modern decision-making. Porter (2012) argues that this is partly because quantification is "so often bound up with sober bureaucratic and professional rituals" (p. 597). Hacking (1991) describes that statistics may appear to be a purely mathematical science, yet require sociological attention because they are "part of the technology of power in the modern state" (p. 181). As will be explored in Chapter 3, researchers such as Hacking (1991), Desrosières (1998, 2011), Porter (1994a, 1996, 2012) and Rose (1991) have begun the task of assembling a history and sociology of numbers.

Although scholars such as Ball (2015a), Hamilton, Maddox, and Addey (2015), Lewis and Lingard (2015), Lawn (2009) and Hardy (2015a, 2015b) have begun to investigate the effects of quantification in education, relatively little is known about how textually-mediated power relations and quantification combine to reorganise teachers' everyday work. In undertaking this research, I similarly found that teachers were often surprised that I was interested in what they considered to be unimportant, mundane tasks that were almost invisible even to themselves. According to Porter (2012), significant ethnographic research is needed to expose how numbers are both produced and used in modern institutions.

A unique contribution of the method of inquiry, institutional ethnography, is that it begins by close examination of these everyday and night forms of work. The research method grew out of Dorothy Smith's feminist investigations into how the often-invisible, quotidian domestic chores that women undertake allowed men to "live in the head world, their work lives untrammelled by responsibility for managing their mundane daily needs…" (Campbell, 2003, p. 7). As Smith (2003) writes, it is important to see all forms of work, in order to turn it "from its extraordinary invisibility into visibility" (p. 63). This generous definition of work that includes "anything done by people that takes time and effort, that they mean to do" (Smith, 2005, pp. 151-152) extends far beyond the traditional boundaries of what might be considered teachers' work. By examining the routine, often boring

processes that teachers undertake, I have aimed to provide the kind of insights that bridge what Ball (1997b) describes as a "policy-practice gap" (p. 265) in which policy research tends to ignore how "ensembles of uncoordinated or contradictory policies" are taken up in local sites by real people. Institutional ethnography is unique because although it is grounded in embodied experience, its ultimate goal is to map the operation of complex, textually-organised power relations that exist beyond local sites. I use the term "everyday/everynight work" (Smith, 1997, p. 393) as a means of taking into account the array of work teachers undertake – including that which occurs at nights and on weekends and during school holidays.

The research is designed to contribute to two bodies of literature. Firstly, it adds to research that provides insights into how teachers use various forms of data in their everyday work. More significantly, it builds on sociological research by tracing how textually-coordinated power relations that rely on the quantification of education coordinate teachers' work. For example, Chapters 4 and 5 examine how NAPLAN data is produced, and reported; and how key texts that prioritise NAPLAN improvement are hooked together in ways that become powerful organisers of teachers' work. Chapter 6 examines the operation of the ideological code through texts by mapping how a funding policy, the "Great Results Guarantee"[2] is experienced by teachers at the local level.

Although data are a powerful part of education discourses, surprisingly little research has been undertaken that investigates what teachers do with data, or what discourses that insist upon the importance of various kinds of data do to teachers' work. In terms of what we know about what teachers do with data, Coburn and Turner (2012) describe that "we still have shockingly little research on what happens when individuals interact with data in their workplace settings" (p. 99). *The American Journal of Education* commissioned a special edition in 2012 entitled "The practice of data use" because according to the editorial team (Coburn & Turner, 2012) "we know little about how people in schools are interacting with the data – interpreting it, responding to it, ignoring it – and how these responses contribute to various outcomes of interest" (p. 100). They argue that research on data use in schools has occurred in three areas, all of which fail to investigate teacher practice.

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[2] The *Great Results Guarantee* was a Queensland state education funding policy (2014-2015) that provided a mechanism for distributing funding provided by the Australian Government's *Students First* initiative to Queensland state schools.

These are: firstly, a small body of research that focuses on data use and outcomes in relation to specific policies; secondly, research on data programs (such as databases); and third, a body of work that is largely normative and does not examine teacher practice.

Little (2012) argues that despite the frequency in which data use is espoused as best practice in managing schools, research into what teachers do with data, and what data does to teachers' work, remains "shockingly underdeveloped" (p. 143). She writes that, "little of [the literature on data] affords a window into the actual practices teachers employ as they collectively examine and interpret student data, or the ways in which the contexts of data use come to occupy a central or peripheral part of teachers' ongoing work life" (p. 144).

Coburn and Turner (2012) suggest there is a need for "researchers who [will] investigate the practice of data use [and] seek to understand what actually happens when people engage with data in the course of their ongoing everyday work" (p. 102). They argue research that is focussed on teacher practice should investigate "how data use unfolds in the 'natural habitat' of the workplace in all its complexity – data use in the wild" (p. 102). Using an institutional ethnographic approach is intended to provide some answers to the research challenge posed by the Queensland Department of Education's research branch (see p. 2) that "very little is known about how schools and teachers collect, analyse and interpret data, other than that it is done with varying degrees of ability. Much more research is needed".

The second, and most substantial area of contribution to the literature is in revealing the way in which accountability and neoliberal discourses and policy ensembles reorganise teachers' work. As will be described in the following chapter, institutional ethnography has provided an opportunity of reaching beyond traditional ethnographic approaches that, for example, might have ended with a description of teachers' work and experiences with data. Rather the key contribution of this research is in explicating how teachers' work is organised by textually-coordinated power relations that operate from beyond local school sites. In school settings, the neoliberal policies that rely on processes such as standardisation, accountability and quantification elicit what Ball (2003) describes as the "terrors of performativity" amongst educators. Some important contributions have already been made in this field. For example, Thompson and Lašič's (2011) examination of social media

comments examined how practices such as teaching to the test are the result of performative pressures and altered subjectivities.

The additional benefit of employing an institutional ethnographic approach is that it provides an opportunity to reveal how power relations operate to change subjectivities and coordinate translocal doings. Although Hardy's (2013a) research traces the ways in which teachers contest and appropriate high-stakes testing regimes, he concludes that more work is needed to understand the ways in which teachers may contest macropolitical demands, particularly when rewards are linked to improving school data, as is now the case in Australia. This research also documents how teachers and school leaders resist quantification and its effects in the contemporary Australian education system.

The research presented in this thesis was designed to address the aforementioned gaps in the academic literature both in the ethnographic work of making visible what it is that teachers' do with data, as well as tracing the impact of textually-coordinated power relations on teachers' work at the local level.

1.4.1 Individual contribution

The ARC project in which this research is situated focussed on the role of ethical leadership in improving student learning and equity in an era of increased accountability. Although related, this research is unique in two key ways:

1. This research focussed on the embodied work of teachers, rather than the work of school leaders. The decisions made by leaders were examined as part of this thesis in order to map ruling relations and the way in which texts and data enter teachers' everyday work. Instead, this research has analysed how leaders' decisions in response to textual demands and data are linked in to wider power relations, and how this impacts on the everyday work of teachers.

2. This research has drawn on sociological perspectives to investigate and offer new understandings into the ways that data and associated texts impact on teachers' work. In contrast, the ARC study sought to provide important insights into how school leaders might use a range of data to guide school improvement.

1.5   THESIS OUTLINE

The thesis is presented in seven chapters. In this chapter, I have outlined the background for this study, presenting my own standpoint and describing how the research contributes to the academic literature both on teachers' work with data, as well as the sociological analysis of the quantification of education. The chapter constructs teachers' work with data as a problematic worthy of further investigation, before outlining the significance and purpose of the research.

Chapter 2 presents the theoretical framework and method of inquiry that guided the research, institutional ethnography. The chapter also explicates the research scope, design and analytic process, including outlining the ethical considerations and limitations of the study. It presents data collection processes including locating the schools, research-participants, and institutional texts collected in order to map the operation of ruling relations.

Chapter 3 examines a body of literature relating to the quantification of education. Sociological perspectives on numbers and statistics in society and education are provided. The chapter also outlines the contemporary Australian education landscape in which a significant number of policies have been enacted that use numbers to measure and judge education systems.

Chapter 4 explores the production of NAPLAN data, beginning with teachers' work in schools. The first half of the chapter traces how NAPLAN is collected, translated into knowledge and subsequently distributed through the media and ultimately back to schools. It examines the multiple avenues through which NAPLAN data is returned to schools. The centrality of NAPLAN to policy making at federal, state and regional levels is explored through various texts that coordinate the management of school principals. The second half of the chapter examines how the school principals involved in the ARC project enacted these textual demands to "improve NAPLAN" by making decisions directly related to the organisation of school resources and teachers' work.

Chapter 5 examines how the kinds of textually-authorised decisions made by school principals (as explored in Chapter 4) are experienced by teachers at two schools. It also includes an illustrative example from each of the two schools that demonstrate how texts become part of institutional circuits that work to coordinate

teachers' work. The term institutional circuit "locates sequences of text-coordinated action making people's actualities representable and hence actionable" (Smith & Turner, 2014, p. 10). By making local actualities visible, it becomes possible to understand how these doings (and subsequent courses of action) are coordinated around key organisational texts.

Chapter 6 examines the ideological code that is imbued within federal and state education funding policies. To demonstrate how teachers' work is located within power relations that are mediated by texts, it examines the ideological work of a funding policy text, the Great Results Guarantee (GRG). The chapter also examines how mediatised policy environments change how policies are experienced at the local level. Tracing how education policies are produced and experienced by teachers in contemporary times provides an insight into the operation of ruling relations. Therefore, after tracing the development of the GRG, the chapter draws on the experiences of teachers and school leaders as they sought to enact the policy; and as the mandated requirements to produce a "guarantee" of school results organised how teachers engaged with data.

Together, these three analytic chapters trace how the ideological codes that are infused in institutional texts operate as a ruling apparatus that significantly changes the everyday work of teachers. In presenting the research in this way, my purpose was to organise the "knowledge of the social" (Smith, 2005, p. 29) in order to "enlarge the scope of what becomes visible from that site, mapping the relations that connect one local site to others" (p. 29). As will be explained in Chapter 2, the method of inquiry did not proceed in this order, but began with the experiences of teachers in the two schools, as well as the principals from the ARC project schools. Listening to the accounts of teachers and principals was the starting point for mapping the connections between local, embodied experiences, institutional texts and ruling relations. In presenting the chapters in this order, my ultimate aim is to make visible the forms of ruling that would otherwise remain obfuscated.

Chapter 7 brings together the analytic work presented in the thesis. The chapter presents some final understandings around the disjuncture between how teachers experience data in their day-to-day work, and the complex ruling relations that organise that work. Here I present the findings from the research and explicate the "line of fault" (Campbell & Gregor, 2002, p. 3) between embodied knowledge and

the ideological code driving institutional texts by exploring the purpose of education, and unpacking what teachers describe as the realities of education in an era in which quantification is a dominant feature of global education discourses. Finally, I provide some insight into the possibilities for future research as well as the implications for teachers and their work.

Chapter 2: Constructing a theoretical framework

2.1 INTRODUCTION

The aim of this doctoral research was to make visible teachers' work with data as an entry point for explicating how that work is orchestrated by a wider set of power relations. The purpose of this chapter is to outline the theoretical framework and method of inquiry that was used to guide the research. The first section of the chapter introduces the theoretical framework, institutional ethnography. This section draws attention to a body of literature to support the use of institutional ethnography for investigating the organisation of teachers' work. The section also introduces the work of Michel Foucault as an additional analytical tool for interpreting data.

The second section of the chapter details how institutional ethnography was used as a method of inquiry, including a description of the research sites and participants, and an overview of the research datasets. Smith (1999) describes institutional ethnography as an "alternative sociology" that is not driven by pre-theorisation and the application of strict methodological processes. She and her colleagues have intentionally resisted the development of a methodology because despite the very best intentions of sociologists in undertaking progressive research, "if they work with standard methods of thinking and inquiry, they import the ruling relations into the texts they produce" (Smith, 1999, p. 5). Rather, her alternative sociological approach, requires the sociologist to begin by inquiring into the actualities of the subject of inquiry, examining their everyday practice before moving to explicate how "what people are doing and experiencing in a given local site is hooked into sequences of action implicating and coordinating multiple local sites where others are active" (Smith, 1999, p. 7). As Smith (1974) described in one of her early works, her original aim was to create a sociological capacity to understand how the local is connected to the extra-local so that people can begin to understand how their world is organised, and why things happen as they do in local settings.

The following section outlines the analytic process of the research. The final two sections of the chapter describe ethical considerations and limitations of the research.

2.2   THEORETICAL FRAMEWORK: INSTITUTIONAL ETHNOGRAPHY

The theoretical framework used to guide this research, institutional ethnography, was developed by feminist sociologist Dorothy E. Smith (1987, 1996, 2001, 2003, 2005) as a means of providing a critical research method for examining the operation of power relations in society.

2.2.1 Standpoint, fault lines, power and the embodied experience

Smith (2005) defines institutional ethnography as a means of:

> …explor[ing] the social relations organising institutions as people participate in them and from their perspectives. People are the expert practitioners of their own lives, and the ethnographer's work is to learn from them, to assemble what is learned from different perspectives, and to investigate how their activities are coordinated. It aims to go beyond what people know to find out how what they are doing is connected with other's doings in ways they cannot see. The idea is to map the institutional aspects of the ruling relations so that people can expand their own knowledge of their everyday worlds by being able to see how what they are doing is coordinated with others' doings elsewhere and elsewhen. (p. 225)

Because the theoretical basis of institutional ethnography begins with an understanding that because people are expert knowers in their own lives, the starting point for investigation must always be grounded in "the actualities of people's lives" (Smith, 2003, p. 61). Smith (1987) describes this positioning of subjects as "active and competent knowers" (p. 142) as an extension to Marxist thinking. This approach has challenged traditional methods of sociological inquiry by questioning the objectification of research subjects that privilege expert research knowledge over the lived realities of research subjects (Grahame, 1998).

In describing her original intent when developing a method of inquiry that began from the standpoint of women, Smith (2004) wrote that her purpose was to "discredit[s] sociology's claim to constitute objective knowledge independent of the sociologist's situation…. The only way of knowing a socially constructed world is knowing it from within" (p. 28). By beginning from the standpoint of research participants, institutional ethnography acknowledges that life is constituted in the actions of real people in real places. The concept of "embodiment" is drawn from both feminist and anthropological studies that "emphasise people's knowledge of the

world as generated from the experiences of their lives" (Bisaillon, 2012, p. 611). To explain embodied "tacit" knowledge, Smith (1997) describes that:

> We know how and where to go shopping; we know how to read a book in the less-than-aware dimensions of turning pages from left to right; we know washing dishes, sweeping floors, cleaning; we know putting on makeup and washing our hair; … we know…; we know…; we know as a matter of doing. This is a knowing that is of the socially organized ground of our participation in living with others, some of it, indeed, altogether beyond consciousness, but no less what we know how to do. Such tacit knowing, of course, becomes a knowledge only at that point when it is entered into the language game of experience, that is, in the course of telling. (p. 395).

Whilst ethnomethodology (e.g., Garfinkel, 1967) also has a focus on everyday activities and the ordering of the social world, institutional ethnography is distinct in that it examines the problematic of the everyday world by requiring researchers to consider how everyday life is orchestrated by a set of social relations produced from beyond the local (Smith, 2005, p. 103). Similarly, while an "orthodox ethnographic gaze of looking within a bounded setting or group" (Doherty, 2015, p. 349) provides its own set of methodological affordances, institutional ethnography adds an opportunity to "look up and into" (Smith, 2006b, p. 5) the operation of power relations that are accomplished via institutional processes and texts. Thus institutional ethnography expands on traditional ethnographic approaches by considering the organisation of power that is not always observable or obvious at the local level.

Undertaking an institutional ethnography requires a radical epistemological shift in thinking that locates problems in society, rather than in individuals (Frampton, Kinsman, Thompson, & Tilleczek, 2006). Deveau (2008) provides the useful example of the "problem" she has sitting in the chairs at her workplace (p. 4). In an objectified way of knowing, an employer or doctor might believe that if you might have a biological "problem" – that the difficulty you have with chairs resides in yourself. Deveau describes this way of knowing about the problem as an "objective" way of knowing (p. 4). However, in institutional ethnography, chairs would be understood as an object constructed to serve the needs of the social organisation of work. For example, if workers were not required to attend workplaces with uncomfortable chairs, there wouldn't be a problem. In this sense, the "problem" is

not a biological problem that resides in the person sitting in the uncomfortable chair. Rather it is socially constructed, and the "problem" chair is something for the employer to resolve.

Understanding these epistemological differences is at the heart of discovering disjunctures or "lines of fault" between "contradictory ways of knowing" (Campbell & Gregor, 2002, p. 3). Explicating the disjuncture between objectified and embodied ways of knowing about data in schools was central to my original research intention. The rich analytic process also provided an opportunity to relate the embodied experiences of teachers to the operation of the relations of ruling. In Chapter 3, I draw on scholarly literature, and provide an analysis of media and policy texts to sketch the ideological code, and "regime of truth" (e.g., Foucault, 1975/1995), that operates and shapes what is known and understood about data in education. Here I draw on Foucault's work in which he describes that:

> Each society has its own regime of truth, its 'general politics' of truth: that is, the types of discourse which it accepts and makes function as true; the *mechanisms and instances* which enable one to distinguish true and false statements, the *means* by which each is sanctioned; the techniques and procedures *accorded value* in the acquisition of truth; the status of those who are charged with saying what counts as true (Foucault, in Dreyfus and Rabinow, 1982, p. 117).

In attempting to understand the politics of truth and the place of data in education, a layer of complexity is added by the nature of numbers and statistics. Numbers have been theorised as "boundary objects" in that they are able to bridge boundaries between different but interacting social worlds (Sætnan, Lomell, & Hammer, 2010, p. 9). Star and Griesemer (1989) describe that statistics and numbers move across sites and boundaries and become a meeting point for collaborations, despite the way that different meanings will be given to the same object:

> Boundary objects are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites… They have different meanings in different social worlds, but their structure is common enough to more than one world to make them recognisable means of translation (p. 393).

A basic feature of boundary objects is that they are always observed from different views at the same time. Hovland's (2011) description of data as "blurry, contested, invisible, taken-for-granted, created [and] creating" (p. 23) is useful. In the same way that we can view a chair as a "problem" caused by a bad back, or a socially constructed "problem" experienced at work, statistics can also be understood as being seen in different ways depending on standpoint. For example, while a child's score on a reading test may be seen as progress by her teacher, it might simultaneously be seen as failure by education bureaucrats. One part of my role as institutional ethnographer has been to explore and map the disjuncture between different ways of knowing about numbers and statistics – the various embodied experiences of teachers in schools, as well the objectified ways of knowing described in official texts.

In institutional ethnography, beginning from the standpoint of research participants also requires an "ontological shift" (Deveau, 2008). Where many research projects seek to discover why things are as they are, institutional ethnography requires a focus on *how* things happen as they do. Much of the current research investigating teachers' use of data has a focus on why teachers don't engage with data, and suggests that if only teachers learned more about data, they would change their attitudes and begin to use it in more productive ways (e.g., Boudett & Steele, 2007; Schnellert et al., 2008). Similar arguments exist in wider education discourses. For example, in a 2015 address entitled "Joy and Data" given as part of the "Australian Learning Lecture" series, Sir Michael Barber, the Chief Education Officer to Pearson said that "globally what we see… [is] some teachers and school leaders embracing transparency and data-informed practice while others – aided and abetted by others who should know better – stand blockheadedly against the gathering or use of any data at all". The online materials associated with the session included a "teacher resource" in which teachers could undertake activities such as "think of times when using data has brought Joy [sic] into your classroom". The 2014 American Association of School Administrators National Conference included a session entitled "From accountability to informing instruction: The real power of data" (Domenech, Guidera, Edwards, & Krueger, 2014). The presenters argued that the hardest part of using data in schools "is the 'human piece'—getting teachers and other stakeholders to use, and trust, these systems" (Pierce, 2014). The logic in this

line or argument was that if teachers used an online toolkit (www.turningdataintoaction.org), they would overcome fears around using data, and begin to engage with data in productive ways.

From a sociological perspective, these kinds of arguments take an ontological position that "transfers agency from people to concepts" (DeVault, 2008, p. 5). Smith (1990a) has argued that abstract terms such as "teacher attitudes" towards data "express social relations organising the actual activities of people, but the social relations themselves are presupposed without being explored or analysed" (p. 37). The ontological shift in institutional ethnography is in transferring agency away from abstract concepts "back to the embodied knower so that we come to understand how things happen the way they do" (Deveau, 2008, p. 5). Rather than focussing on why teachers don't engage with data, taking an institutional ethnographic approach required a focus on how things have come to be as they are for teachers.

Smith's generous definition of work includes anything that "people do in the course of their everyday lives… everything that people know how to do and that their daily lives require them to do" (Campbell & Gregor, 2002, p. 72), regardless of whether they would typically consider it to be work, or whether it forms part of official definitions of work. As such, exploring work from the standpoint of research-participants requires careful attention to activities that might otherwise remain invisible, from waiting to use a photocopier before school to entering assessment data into a database on weekends. This work, although often considered mundane or unimportant, even to teachers themselves, is important, because as Smith (1999) describes:

> Whatever exists socially is produced/accomplished by people "at work," that
> is, active, thinking, intending, feeling, in the actual local settings of their
> living and in relationships that are fundamentally among particular others—
> even though the categories of ruling produce particular others as expressions
> of its order (p. 75)

Because power relations are connected to the actualities of embodied experiences, institutional ethnography affords the opportunity to examine the operation of power whilst rejecting the subordination of local experiences and daily life. For Smith (1992), the "standpoint doesn't privilege a knower… It shifts the ground of knowing, the place where inquiry begins" (p. 90).   Smith (1997) has been concerned to point

out misunderstandings of standpoint theory that assume a privileging of a particular experience, instead describing that standpoint is more concerned with "access[ing] knowledge of what is tacit, known in the doing, and not yet discursively appropriated (and often seen as uninteresting, unimportant, and routine)" (p. 395). While this research began from the standpoint of teachers' everyday embodied experiences, the aim of the research was ultimately to go beyond these lived realities, and to understand the mechanisms and power relations that coordinated teachers' work. In the following section I examine how institutional ethnographic inquiry moves from the embodied experience of research participants to explicate the operation of power relations.

2.2.2 Textually-coordinated ruling relations

An institutional ethnography is not intended to simply document the experiences of a researched subject, but rather, is based on the understanding that what occurs locally is organised and coordinated through the activation of texts (Smith, 2005). The notion of translocal effects is explored in more detail below. Smith (2005) describes that:

> The concept of the ruling relations directs attention to the distinctive translocal forms of social organisation and social relations mediated by texts of all kinds (print, film, television, computer, and so on) that have emerged and become dominant in the last two hundred years. They are objectified forms of consciousness and organisation, constituted externally to particular people and places, creating and relying on textually based realities. (p. 227)

Smith has written extensively on the role of texts in modern societies and text-mediated practices that are central to the operation of the ruling apparatus and the distribution of power (e.g., 1990b; Smith, 2001, 2006a, 2006b). Pivotal to her work is the notion that texts objectify, thereby mediating, regulating and authorising people's activities (Smith, 2001, p. 160). Campbell and Gregor (2002, p. 29) provide an example of textually-mediated relations by describing the interchange between a student and a bus driver, as a student boards the bus. The actions of both student and driver are coordinated around the bus pass, which is a written text. In this everyday example, the text authorises the student to ride home, and is an important (although often invisible) part of students' daily life. The textually-mediated relations between student and driver can be understood as organising not only the daily lives of one

particular student and bus driver, but also as reorganising activity in many local sites across the world where students use a bus pass to ride home. That is, the bus pass text coordinates relations translocally.

As Campbell and Gregor (2002) describe, the capacity for a text to rule depends on how it "carries messages across sites, coordinating someone's action *here* with someone else's action *there*" (p. 33). The term translocal encapsulates the understanding that local circumstances can be connected with happenings in other local sites; as well as being connected by texts and discourses produced from outside of the local, or "extralocally" (Bisaillon, 2012, p. 613). The analytic work of institutional ethnography is focussed on unravelling how translocal doings are connected through "empirically traceable connections between what happens here and what happens in extra- or translocal places there" (p. 613). As became clear during my own research, these connections "are not necessarily obvious or apparent to us, which is why they are objects of critical social inquiry" (p. 613). When I was a classroom teacher I was largely oblivious to where the majority of directives from my principal came from. The teachers in this research also described that they were unaware of how things have come to be as they are.

Explicating these connections is a key analytic aim of this thesis. Institutional texts are infused with an "ideological code" (Smith, 1990b, p. 157) that acts like a "genetic code" that is able to replicate itself and "organise intertextualities across discursive sites" (p. 158). For Smith (1999), the replicability of texts is therefore an essential aspect of their power:

> The relations of ruling form a complex field of coordinated activities, based in technologies of print, and increasingly in computer technologies. They are activities in and in relation to texts, and texts coordinate them as relations. Text-mediated relations are the forms in which power is generated and held in contemporary societies. Printed or electronic texts have the generally neglected property of indefinite replicability. Replicability of identical forms of meaning that can be activated in multiple local settings is fundamental to the relations of ruling. (p. 79)

For a text to have relevance across multiple sites, it must be reproducible. Yet standardisation of the local is also an "essential local complement to the ubiquity of the organising text" (Smith, 1996, p. 178) because procedures of standardisation

allow local actualities to be "[brought] into correspondence with standardised texts" (p. 173). Local settings such as schools must therefore be constituted as standardised, and often quantifiable, objects in which it is possible to apply "rules and instructions… from one setting and time to others" (p. 182). Standardisation is therefore "fundamental to the organisation of societies governable within the relations of ruling" (Smith, 1996, p. 181). In the following chapter, I explore how statistics and numerical data are a significant technology in modern institutions in that they create commensurable and "readable" versions of local particularities, therefore making teachers' work governable within textually-mediated ruling relations. The generalising work of texts not only promulgates standardised language, but also the ideological code of the institution. According to Smith (2001):

> The replicated identical text as utterance activated by participants joins them in a situation which it names and defines, standardising among them the terms in which they can know, understand, and evaluate it, regardless of how its naming and its terms provide for the utterance of what they are actually experiencing… Texts provide the basis of a technology enabling, among other things, an order of facticity suppressing divergent perspectives and establishing shared and enforceable common ground, a virtual reality standardised across multiple settings. (p. 176)

This capacity to generalise beyond concrete, local particularities is central to the operation of power relations. My aim in undertaking this research was to discover *how* textually-coordinated ruling relations operate in ways that reorganise teachers' work. My role has therefore been to begin with teachers' local experiences, before tracing the complex set of texts, data, policies and discourses that shape this everyday work.

   This work is built on an understanding that texts are "active", rather than traditional ethnomethodological and sociological "analytic strategies [that] presuppose the text as something that appears before the sociologist already in its character as a specimen, inert, dead and out of context" (Smith, 1990b, p. 120). Smith (1990b) suggests that the ubiquitous nature of texts in modern life make them an invisible and taken for granted mediator of our lives. From filling in credit card application forms to responding to bureaucratic demands at work or browsing online advertisements, texts choreograph a great deal of modern life, even though they are

often produced extralocally and are thus "characterised by a detachment of discourse from the locally produced speaker" (Smith, 1990b, p. 123). Institutional ethnographic research views texts as central to the organisation and regulation of social doings, recognising them as able to regulate and organise "like a crystal ball which bends light as it passes through" (p. 121). According to Smith (2005):

> institutions and the ruling relations are mediated by texts ... [as] materially replicable words or images. The technologies that make the replication of words and images independent of particular settings are foundational to the generalised forms in which the ruling relations exist (p. 86).

In so doing, texts transform local doings and actualities into "standardised, generalised, and, especially translocal forms of coordinating people's activities" (Smith, 2005, p. 101). However, on their own, texts are merely static documents. Smith (1996) describes that they "are activated at a particular moment of reading in the time it takes to do that reading and in a particular time and place" (p. 177). "Textually-mediated social organisation" refers to the way in which engagement with and activation of texts coordinates the actions of people (Campbell & Gregor, 2002, p. 29). Nichols and Griffith (2009) explain that although policy texts are created to govern education, they can only do so when they are enacted by people in local sites:

> Texts require someone who is able to actualise them as instructions for action, and then move these (or consecutive texts) onto the next someone, somewhere, whose reading and action will continue the textually-mediated relation. (p. 241)

Texts therefore have the power to connect practices across sites, thus creating regimes of institutional governance. Understanding how institutional texts and discourses are hooked up to various local sites requires an explication of intertextuality and the recursive nature of texts as readers in local sites enter into "text reader conversations" (Smith, 2005, p. 105). For Smith (2005), "as a reader activates a text, she or he engages with its language and also respond[s] to it" (p. 104).

I note here Smith does not use the term "institution" to refer to a single organisation such as a school, or even an education department. Instead she uses the term to describe the "complex set of relations that form part of the ruling apparatus,

normally organised around a specific function, such as education" (Smith, 1987, p. 160). The institution is used as an alternative to typical organisational forms such as bureaucracy because it makes room for the analysis of a range of different forms of organisation, including the intersection of different modes of ruling.

In summary, institutional ethnography is based on the recognition that "the activities of individuals are not only concerned in the immediacy of the everyday. They are implicated also in the organisation of extended social relations.... in which many individuals unknown to one another may be active" (Smith, 2005, p. 133). Whilst sociological research has generally recognised that everyday life is inherently problematic (in that it is full of inequities and struggles), the difference for institutional ethnographic work is that the struggles of everyday life are treated as "sociology's problematic" (Grahame, 1998, p. 347). Whilst the research is intended to draw attention to the work of teaching, it also uses teachers' accounts of their everyday work to understand how this activity is coordinated by wider forms of textually-mediated social organisation.

2.2.3 Institutional ethnographic literature

Institutional ethnographic research has been undertaken in a number of fields to understand how people's work is coordinated across a range of settings such as health care (e.g., Ng et al., 2013; Rankin & Campbell, 2006), parenting (e.g., Grahame, 2003; Griffith, 1995), employment (e.g., Blaxland, 2008; Sturman, 2009), legal systems (e.g., Pence, 2001) and education (e.g., Comber, 2012; Kerr, 2006). Smith's own early work, in conjunction with Alison Griffith (1987, 1995, 2005) began from the standpoint of single mothers to discover the often unseen work they undertook, but proceeded to map the texts and processes that coordinated both mothering and schooling. What is common in institutional ethnographic research, regardless of context, is that the work begins in the local and extends beyond that setting into the translocal. By exploring how activities are coordinated across multiple sites – translocally and often globally – institutional ethnographies seek to unravel how power relations operate.

Information technology has enabled a plethora of texts to be produced and transmitted quickly and over disparate localities. In this landscape, the global reach of large multinational edu-businesses and organisations such as Pearson and the Organisation for Economic Cooperation and Development (OECD) has grown, with

researchers such as Junemann and Ball (2015) and Rizvi and Lingard (2010) examining the operation of globally coordinated policy. Griffith and André-Bechely (2008) describe institutional ethnography as a means of understanding the "intersections between globalisation and work in local settings… by attend[ing] to the social relations of ruling that are coordinated textually" (p. 46).

In the field of education, researchers such as Nichols and Griffith (2009), Kerr (2006), Griffith and André-Bechely (2008), Parkinson and Stooke (2012) and Comber (2012) have used institutional ethnography to trace the effects of texts as part of regimes of ruling. Each of these studies explicates the translocal effects of accountability and managerial policies in education, as they are enacted in local sites. Nichols and Griffith's (2009) work in British Columbia traces the effects of accountability policy texts. They conclude that "achievement and/or accountability are textually-mediated concepts that coordinate the possibilities for how people understand and enact educational policy as they go about their ordinary work for schooling" (p. 245). Their work traces the everyday lives of parents helping children around the kitchen table after school to classroom work to curriculum guidelines to standardised testing and accountability policies.

An institutional ethnography undertaken by Parkinson and Stooke (2012) investigated how assessment tasks mediate literacy curricula. They report on the reorganisation of teachers' work in order to facilitate the collection of literacy data, despite describing the administration of assessment items as cumbersome, additional tasks that are not part of the "real work of teaching" (p. 59). Despite teachers' protestations that assessments were not teaching practices, Parkinson and Stooke's research revealed that policy texts requiring particular assessment practices meant that teachers spent significant time and energy on assessment work. Parkinson and Stooke's (2012) research explicated how the nature and quantity of accountability work diminished teachers' ability to do the work for which they were held accountable – namely teaching students. These changes led them to conclude that assessment and the assembly of data was "the antagonist in a powerful story of school" (p. 60).

This research was in part a response to earlier work by Griffith and André-Bechely (2008), who also took an institutional ethnographic approach to the study of schooling. Their research traced the practices of teachers and families of school aged

children back through local and national policy texts, and finally to global neoliberal policies and the discourses that require education systems to produce global workers of the future. Their rich descriptions of two disparate families – one in Los Angeles and one in Toronto – who have both purchased a test practice booklet for their primary school aged children and who both spend time in the evening helping their children with the booklet is striking (p. 41-2). Having traced the ruling relations that have reorganised family and school life so powerfully, Griffith and André-Bechely describe the translocal effects of neoliberal policies on teachers' work as an "intersection between... globalising discourses, educational change, and... local experiences with schooling" (p. 42). This work highlights the importance of beginning in the local but explicating the ruling relations that coordinate lives translocally. André-Bechely's (2005) research in a large, urban district in California explores school choice in the United States by examining the practices of parents. Through examining the local decisions and school-choice work that parents undertake, André-Bechely's work exposes how the very policies that were intended to bring about a more equitable system often led to the social reproduction of privilege.

Kerr's (2006, 2014) work in Canada similarly traces the effects of accountability policy ensembles and textually-mediated relations that have reorganised teachers' work. Kerr's (2006) investigation began with teachers' standpoint in neoliberal times. Kerr began with research questions based on local experiences of teachers such as "why are teachers quitting/downshifting" (p. 13) by exploring how the provincial Progressive Conservative Party's "Common Sense Revolution" (1995-2003) that was built on neoliberal reforms such as standards-driven education and "back to basics" curriculum reform was experienced at the local level. Kerr's analysis of textually-mediated social relations found that a "discourse of crisis" was used to discredit teachers and legitimise additional layers of accountability onto teachers' work. The discourse of crisis is similarly evident in Australian, U.S. and U.K. contexts (see Chapter 3).

In Australia, Comber (2012) has explored the impact of the federally mandated testing regime, NAPLAN, through an institutional ethnography that began from the standpoint of educators working in a South Australian school. As well as highlighting the reorganisation of teachers' work around NAPLAN, Comber's

research is important in that it emphasises the uneven effects of policy by drawing attention to the situated actualities of teachers and students in a culturally-diverse, low-socio-economic school. Beginning with the embodied experiences of teachers and administrators, Comber explicates the operation of ruling relations, by exploring how school principals made decisions about NAPLAN exclusions and inclusions. This research is particularly relevant to my study because it examines how the standardisation and quantification of Australian education has reorganised the local, and the way in which NAPLAN data is central to the operation of ruling relations. My research adds to this body of literature by tracing how NAPLAN data, along with texts that draw on NAPLAN targets and data, are activated in ways that organise the local actualities of teachers in two diverse school settings.

The above examples of research exemplify how the method of inquiry developed by Smith and colleagues has been practised and elaborated on, and now provides a method of inquiry that is suitable for understanding how globalised sets of neoliberal policies have put pressure on national education systems, and have significantly altered how teaching is constituted (DeVault, 2008, p. 40). As Griffith and André-Bechely (2008) argue, "to understand the intersections between globalisation and work in local settings, research must attend to the social relations of ruling that are coordinated textually" (p. 46). As the above examples illustrate, institutional ethnography provides an opportunity to understand how these textually-mediated relations of data and accountability have been activated by teachers as they go about their "everyday/night" work (Rankin & Campbell, 2009). The research presented here has illustrated how teachers' work with accountability and data is coordinated in ways that may be beyond their knowing, but are of central importance to understanding how things came to be as they are. Kerr (2006, p. 4) argues that education systems depend on teachers to uphold neoliberal policy reform efforts, yet teachers' perspectives are rarely included in policy or public debate. She argues that using institutional ethnography to make sense of teachers' perspectives is one way to "redress the imbalance" (2006, p. 4).

2.2.4 Critiques of institutional ethnography

As institutional ethnography has evolved, it has been subject to both methodological and theoretical critique, which as Wright (2009) points out, indicates a growing application of Smith's work. Some of the earlier theoretical debates (cf. Harding,

1997; Hartstock, 1997; Heckman, 1997; Hill Collins, 1997) centered around the purported universality of early standpoint theorists. Smith (1997) emphatically rejected having adopted a universalising approach, instead arguing that "experience is a method of speaking that is not preappropriated by the discourses of the relations of ruling" (p. 394) and that "it is this commitment to the privileges of women to speak from experience that opens the women's movement to the critique of white and/or heterosexist hegemony from those it marginalizes and silences" (p. 394). Nevertheless, others such as Stanley and Wise (1990) have raised interesting questions around standpoint such as how a [white] institutional ethnographer might approach research when the research participant embodies "a standpoint she could not share, like black women, or whom she would morally or politically disagree with, like women abusers of children" (p. 36). Yet as Grahame (1998) points out, standpoint is the beginning point for inquiry, and regardless of our capacity to empathise (for example, with a female abuser) the research objective is to explicate social and ruling relations. Black feminist scholars such as Hill Collins (1997) have described Smith's strong influence on their own work, also rejecting claims of essentalisation. Similarly, although originally developed as a sociology for women (Smith, 1987), Smith's work has since developed into a sociology for people (Smith, 2005) in which the experiences of people are the entry point for sociological exploration. Understanding this shift was important in this research given both the feminised nature of the teaching workforce in Australia (e.g., ABS, 2016), and the combination of male and female teachers and school leaders at all six schools that participated in the research.

Walby (2007) has drawn attention to issues related to methodological reflexivity and objectification in institutional ethnography. Although Smith's original intent was to overcome the objectification in traditional sociological methods, Walby argues that processes such as interviewing and transcription are inherently interpretative and objectifying, and thus "produce rather than preserve the presence of the subject" (p. 1009). Walby argues that institutional ethnography "demystifies conceptual practices of power by placing them in the context of their production only to re-mystify knowledge production (to a lesser degree of objectification) in its own method of configuring the social relations of research" (p. 1010). However, as Smith (e.g., 2006b) has made clear, accounts of participants' actualities are not intended to

be "windows on the informant's inner experiences" (p. 15), but rather, a means of investigating how everyday practices are coordinated from beyond the local. Talbot (2015) also points out that "institutional ethnography does not claim to represent the informant but rather the coordination of the informant's actions" (p. 92). Since Walby's critique was published in 2007, Talbot has argued that institutional ethnographic research (e.g., Comber, 2012; Nixon & Kerkham, 2014) has developed an increasing focus on making more explicit connections between research data, texts and social relations "as the product of the research" (p. 93). Nevertheless, Walby's (2007) argument that researchers should adopt ongoing scrutiny of their own textual practices is useful, to which I note that I have attempted to provide this kind of reflexivity for example by explicating processes of transcription (see Section 2.4.1) and interviewing (see Section 2.4.2). Here I also note that many institutional ethnographic works, including Griffith and Smith's (2005) seminal work *Mothering for Schooling* do indeed provide detailed accounts of the kinds of reflexive practice sought by Walby. These accounts were pivotal for me in shaping my own reflexive practice throughout this research.

As institutional ethnography continues to develop, new scholarship is emerging that challenges researchers to consider how the theoretical underpinnings can be applied in a range of contexts. For example, Rudrum's (2016) work in Uganda has highlighted that much of the focus on texts as significant technologies of ruling are borne out of scholarship from the Global North, and that "what has not yet been theorized is the role of texts in societies that are not primarily characterized by industrialization or the ubiquity of media" (p. 3). Her work highlights how the absence of texts in the Global South requires different approaches to the research. For example, Rudrum reports that rather than writing letters of complaint, as might be the case in the Global North, in Uganda she witnessed "a protest that… had women lying down in the road to block the exit of a health official, in order to demand a meeting with him to protest poor health facilities" (p. 6). Her work demonstrates the need for increased attention to the research setting and the method of inquiry.

Williams and Rankin's (2015) work similarly sought to contribute to the development of institutional ethnography by exploring how research could be conducted in in post-Tsunami Thailand where the "chaotic nature of a disaster, as

well as the nature of tsunami aid and recovery policy implemented by the national government required ongoing adaptations to the focus of the fieldwork" (p. 80). Their work sought to produce an empirical analysis of the social despite a "scarcity of texts" (p. 80). In so doing, the authors consulted directly with Smith, seeking her advice around how to proceed given the lack of textual evidence that has traditionally formed the basis of institutional ethnographic investigation. Recounting conversations with Smith, Williams and Rankin describe that Smith assured them that "material processes of social and ruling relations… could be empirically tracked in people's accounts and descriptions" (p. 88). Thus, while texts are conceptualised as central to the process of explicating ruling relations, "they are not absolutely essential" (p. 88). As Smith and Turner (2014) have described, institutional ethnography should not be construed as a "fixed set of practices" (p. 7), but rather, a method of inquiry that is developing "as different terrains and forms of organisation demand new approaches" (p. 7).

A further critique of institutional ethnography is related to the theoretical complexity on which Smith based her work. Wright (2009), in her doctoral thesis, described that gaining a sufficient understanding of the theoretical basis of institutional ethnography "demands a certain level of education, along with lengthy periods of time in which to familiarise oneself with the theories" (p. 57). Wright argues that institutional ethnography is perhaps best "carried out in collaboration, rather than as a solitary project" (p. 57). The solitary nature of higher degree research, as well as the increasing moves towards project management approaches to doctoral research (with the goal of improving student completion rates), certainly means doctoral students undertaking institutional ethnographic work need to manage their candidature carefully (in collaboration with their supervisory teams). My own personal experience was one in which the time taken to grasp key theoretical concepts contributed to the limitations of the research. For example, early decisions not to include education bureaucrats as informants in the research design and university ethics procedures might have been different if I had acquired an earlier and more fulsome understanding of the extent of ruling relations at the outset. As I began to map textual chains, it became clear that including bureaucrats and policy makers as research participants would have added analytic strength to this project. Yet, as Smith (2006, in Diamond) reminds us, it isn't always possible to foresee what

will be discovered and "what you are going to do" (p. 46). Although my omission was partly due to early decisions made in order to meet particular doctoral milestones, it was also in part because I really didn't anticipate the extent of ruling relations prior to having completed the research. Despite any challenges, I strongly believe that undertaking doctoral research is one of the few times an academic has access to large amounts of time to read and develop deep theoretical understandings.

The following section introduces key concepts from the work of Michel Foucault as an adjunct to the theoretical framework to support textual analysis during the research.

2.2.5 Foucault: Power, truth and subjectivity

In addition to drawing on the work of Smith and colleagues (e.g., Campbell, 2003; Kerr, 2011), I also looked to the work of Michel Foucault as I undertook textual analysis. Smith drew on the work of many theorists, most notably Marx, but also Foucault, in the development of institutional ethnography. Writing on the operation of modes of power, Smith (1997) wrote that while Foucault moved our understandings from "the exercise of power upon the individual body to the exercise of power through the diffused and decentred order of discourse" (p. 116), her own work sought to elaborate on this further by explicating how "objectification can be found in the shift from capital identified with the individual owner, to capital identified with the corporation, enabling ownership to be separated from control and management, and ownership to be distributed among multiple anonymous 'shareholders'" (p. 116). Smith's usage of the concept of discourse was derived from Foucault's work (Smith, 2002). Indeed, Smith describes her desire to "preserve Foucault's (1971) conception of the order of discourse, but to extend it to stretch in ways that escape Foucault's paradigm" (p. 25) by beginning from the embodied experiences of people. Smith's (1990b) concept of "textually-mediated discourse" (p. 163) is intended to elucidate how texts enter into and orchestrate actions and relations among people as they go about their everyday lives. Describing how she extended on Foucault's concept of discourse, Smith (1990b) said that, "in preserving the active presence of subjects, I have displaced the central place given by Foucault to the textual, bringing into view the social relations in which texts are embedded and which they organise" (p. 163).

Foucault's understandings have been used to supplement textual analysis in institutional ethnographies by researchers such as Clarke (2012), Comber and Nixon (2009), Hewson (2013) and Kerr (2011). For Kerr (2011), Foucault's genealogical techniques provided a means of interrupting taken-for-granted discourses, exposing power relations and avoiding "essentialised truths" (p. 17). Foucault (1980) described truths as being "centered on the form of scientific discourse and the institutions which produce it" (p. 131). For Foucault (1997a), an analysis of knowledge and the operation of "regimes of veridiction" (p. 32) requires careful attention not to what is true or false, but rather to the conditions under which particular truths can be exercised, and with what effects. Similarly, the analytic focus of institutional ethnography is on explicating how relations of power operate, and with what effect.

The way in which truths about students and teachers are constituted in numeric data/knowledge and with what effect is a central focus of this doctoral research. In this way, analysis of power and ruling relations also requires attention to performativity and subjectivity as "a key site of political struggle" (Ball, 2015b, p. 3). Foucault (1983) claimed that his interest in power was secondary to his interest in subjectivity (p. 209). For example, his body of work examined how human subjects are constituted as objects of knowledge (e.g., 1964/1988), and how technologies of self-governance operate in which subjects transform themselves (e.g., 1975/1995). For Smith, subjectivity, or knowledge acquired through everyday practices, also acknowledges that as real people in real places, we both act and are acted upon as we engage in social practices. Smith's (1987) recognition that what we know is affected by where we stand – located in our bodies and in "spatiotemporal existence" (p. 87) – contributes to understandings that subjectivity "serves as a window to a larger social and economic world around us" (Lee, 2015, p. 16).

Because the operation of ruling structures and power is central to Smith's work, Foucault's (1991, 2010) notions of governmentality, which focusses on understanding how modern forms of power are accomplished, are complementary. Foucault's "semantic linking of the words governing (gouvener) and modes of thought (mentalité)" link together technologies of power and governance with ideological codes and political rationalities (Lemke, 2002, p. 50). Ball (2015b), drawing on the work of Foucault, describes modern operations of power in quantified

education systems (such as the increasing use of league tables) to highlight how governmentality and subjectivity, or "the point of contact between self and power… the drama of self and government" become sites of power. Foucault (1982), reflecting on more than 20 years of scholarship described his objective as having been to understand "how human beings are made subjects" (p. 777) through modes such as the objectivisation of productive citizens who labour for economic purposes; and the objectivisation of subjects through "dividing practices" such as madness/sanity. The use of statistics and numbers in education as a technology that generalises beyond the local; and that works to divide and classify students, teachers and schools is a broad example of the objectivisation of teachers in modern education systems. Foucault's analytic work that exposes the operation of power through government of the self and others (e.g., 1975/1995) thus provides a useful adjunct to the institutional ethnographer's analytic toolkit.

Combining Smith and Foucault's understandings of power provided an opportunity to analyse how power is dispersed in networks of relations, "in a multitude of microcentres" (Gutting, 2005, p. 104). The conceptualisation of power as dispersed, and in which teachers discipline themselves in their everyday work, for example, by activating an institutional text such as a departmental policy elucidated the operation of ruling relations. This theorisation of power also provided a focus on ensuring that work and texts that may at times have appeared mundane or unimportant could be understood as part of dispersed relations of power. On this note, I also draw attention to Foucault's insistence that power is neither inherently positive nor negative. In an interview with graduate student Michael Bess, Foucault (1988) explained that:

> I say that power is a relation. A relation in which one guides the behaviour of others. And there's no reason why this manner of guiding the behaviour of others should not ultimately have results which are positive, valuable, interesting, and so on. If I had a kid, I assure you he would not write on the walls—or if he did, it would be against my will. The very idea! Sometimes, because my position has not been made clear enough, people think I'm a sort of radical anarchist who has an absolute hatred of power. No! What I am trying to do is to approach this extremely important and tangled phenomenon in our society, the exercise of power, with the most reflective, and I would say prudent attitude (p. 12).

This view of power as a relation, (although often unequal as is the case between a father and a son; a teacher and a school principal) is central to Foucault's work. Similarly, the analytic focus is on understanding how power is dispersed in unbalanced power relations that govern the everyday work of individuals is central to the work of institutional ethnography. For Foucault, like Smith, the operation of apparatuses of power can be analysed as a set of relations that exist "on the basis of multiple subjugations" (p. 46), and that can reorganise social relations translocally. For this reason, Foucault argued that it was impossible to trace power relations back to a single source of domination, but rather, the work of analysis should be centered on "identify[ing] the technical instruments that guarantee they function" (p. 46). Foucault (1997a) described the operation of "regimes of veridiction" not as "a law of truth, [but] the set of rules enabling one to establish which statements in a given discourse can be described as true or false" (p. 34) as being intimately tied to power relations, with analysis providing opportunities to expose the workings of power relations and the conditions under which particular truths exist. Writing about the operation of power relations, and the analytic work required to understand its operation, Foucault (2003b) in his *Society Must Be Defended* lectures at the Collège de France explained that:

> We should not, therefore, be asking subjects how, why, and by what right they can agree to being subjugated, but showing how actual relations of subjugation manufacture subjects. Our second task should be to reveal relations of domination, and to allow them to assert themselves in their multiplicity, their differences, their specificity, or their reversibility; we should not be looking for a sort of sovereignty from which powers spring, but showing how the various operators of domination support one another, relate to one another, at how they converge and reinforce one another in some cases, and negate or strive to annul one another in other cases. (p. 45)

These notions of power as diffuse are related to Foucault's theorisation of discourse. He argued that, "discourse transmits and produces power; it reinforces it, but also undermines and exposes it, renders it fragile and makes it possible to thwart" (p. 101). In his seminal work, *Archeology of Knowledge* (1969/2002), Foucault described discourse as "the group of statements that belong to a single system of formation [of knowledge]" (p. 107-8), providing examples such as clinical and psychiatric discourse. Thus, discourses shape what can be said and by whom at

particular historical moments; and with what authority. Foucault (1971) argued that the prohibition of certain discourses (as in what cannot be said, and by whom) is "like a web, most tightly woven around danger spots such as politics and sexuality" (p. 8). Hence discourse is not just about language, but instead, about power relations and the practices that allow objects to be discursively constituted by particular people, in particular ways and at particular times. Foucault (1969/2002) theorised that:

> Discourses are *practices* that systematically form the objects of which they speak... discourses are not about objects, they don't identify objects, they *constitute* them and in doing so, they conceal their own invention (p. 49).

For Foucault, discursive practices are therefore not just linguistic, but rather the processes by which objects, norms and ideas are established; and by which power operates by excluding and including objects in discourse.

Smith (e.g., 1987, 1990b, 1999) has acknowledged that she derived her conceptualisations of discourse from Foucault; reinterpreting it from a more sociological perspective. Smith (1987) described that:

> Attention to discourse as socially organised does not discard or invalidate the statements, conventions and knowledges that its texts bear. Rather, texts are understood as embedded in and organising relations among subjects active in the discourse. We are talking about actual people entering into actual relations with one another. Sociology as a form of consciousness ceases to be an abstract fluid entity that somehow leaks into people's minds and can be seen as ongoing and actively produced and maintained in relations mediated by texts (p. 214).

For Smith, a sociology built from understanding embodied consciousness required a conceptualisation of discourse as "actual ongoing practices and sites of practice" rather than "statements alone" (p. 214). She (1999) writes of Foucault's (1981) conceptualisation that, "brilliant as it is, it accredits the stasis of the text" (p. 134), and as such, "discards actual subjects, whether as 'author' or as reader or some other mode…" (p. 134) In extending on Foucault's work, Smith's aim was to make use of the materiality of texts as "a key to addressing discourse as actual social relations between reading, speaking, hearing subjects – actual people, you and me" (p. 134).

Foucault also acknowledged the importance of texts and textual analysis in his work. In *Archaeology of Knowledge*, he used books as an example to illustrate that texts are not just made of individual words or sentences, each with their own meaning; but rather are "caught up in a system of references to other books, other texts, other sentences" (p. 23). In other words, the meanings contained in a single text are always connected to a larger, inter-related complex web of knowledge. However, Smith's (1990b) notion of discourse extends on this work by "displac[ing] the analysis from the text as originating in writer or thinker, to the discourse itself as an ongoing intertextual process" (p. 121).

The decision to use the work of Smith and Foucault emerged from my own personal history, and was well suited to the purpose of this research. Having a personal goal of understanding teachers' work as well as mapping how it was "hooked in" (Smith, 1992, p. 89) to power relations made institutional ethnography a good fit for the research. However, having applied Foucault's work in my masters by research thesis, I often felt I could not escape Foucault's conceptualisations of power, truth, discipline and governmentality. As one of my supervisors reminded me, it is hard to "forget Foucault". Happily, I found that Foucault provided a useful additional analytic tool as I undertook my first institutional ethnographic investigation. Drawing on these theoretical underpinnings has been central to the design of the research and the method of inquiry, which is outlined in the second half of the chapter.

2.2.6 Concluding comments

In Stephen Ball's (2012a) analysis of neoliberal policy narratives, he concludes that more work is needed to trace the effects of local policy regimes that exist as part of the wider expansion of neoliberal thought. Larner (2003) has also argued monolithic accounts of neoliberalism can lead to fear and a sense of hopelessness because they ignore the local experience of neoliberal policy and discourse. Institutional ethnography provides a response to Larner (2003) and Ball's (2012a) challenge of understanding how neoliberal policy narratives are experienced in "mundane practices – the everyday, ordinary neoliberalism" (Ball, 2012a, p. 2) by explicating the operation of power relations that coordinate the local. As Smith (1987, p. 47) writes, "there is work therefore, for sociologists to do". In this section, I have outlined the theoretical basis of institutional ethnography as a means of explaining

why it was so well suited to the research. In the following section, I provide an outline of the method of inquiry that guided the research.

2.3   METHOD OF INQUIRY

> I don't give the term "actual" content because I want it to function like the arrow you see on maps of malls that tell you "you are here!" I want the term "actual" to be always directing us back to the "outside the text" in which living goes on and in which the text is being read or written. Of course, the text is always the actual, though we seem to feel that we can escape through the text, riding it like a magic carpet of legend. The term "actual" remains undefined to remind us of the carpet we are riding, of us too who are riding it, and of the ground below. "Actual" points outside the text to the reader and her or his site of reading within which the text is activated, becomes a text (Smith, 1999, p. 5)

In the above excerpt, Smith draws attention to the interplay between texts and the particularities of local doings. It served as an important reminder for me to ensure that while "riding the magic carpet", the living that went on for teachers outside of texts remained in view. In this section I provide an account of the research design and method of inquiry. I begin by outlining the research methods used including the selection of research sites and participants and data collection methods. In Section 2.4, I describe the analytic tools used to analyse research data. I conclude with a discussion of ethical considerations and limitations.

2.3.1 Research sites and participants

The research sites were two Queensland schools: a metropolitan primary school, North Bank Primary; and a secondary school located in a coastal region, East Side High. Both schools, along with four others, were participants in the aforementioned ARC project. As a part-time research assistant working on the ARC project, I was provided with the opportunity to work in six of the schools, although I worked closely in only four. This work included acting as a critical friend as schools conducted action research projects within the school. These projects involved collaborative work between teachers, school leaders and university researchers in areas as diverse as embedding literacy pedagogies across all faculties in a secondary school; investigating the effectiveness of junior secondary schooling structures; researching the effectiveness of negotiated pedagogy in a secondary school;

investigating student and staff mental health and wellbeing; and embedding a whole school coaching model to improve literacy pedagogy. After working at the schools in the capacity of research assistant, I liaised with two of the school principals to obtain consent to undertake my doctoral research within their schools. These two schools were selected in particular because I had established positive working relationships with a number of teachers at both schools as well as the school leaders; and because they provided a geographically, socio-economically and structurally diverse pair of research sites that would enable me to map the operation of ruling relations. Researching across primary and secondary schools, and across geographic regions was intended to provide opportunities to map ruling relations translocally. By working with a primary and a secondary school in different geographic, social and cultural contexts, my intention was to map the ruling relations that extended to both secondary and primary school teachers; in both metropolitan and regional settings, whilst retaining a view of different locally enacted practices. This was a significant decision because it provided the opportunity to map how relations of power operate in two very different sites, and to explicate the extent of these textually-coordinated ruling relations.

Research Participants

The research participants were practising teachers working at East Side High and North Bank Primary. During my work as a research assistant I had established relationships with a number of teachers at both schools. At North Bank Primary I had met and worked with the majority of teachers, undertaking interviews, classroom observations and focus groups. At East Side High I had worked with a small band of teachers from a range of faculties on individual action research projects, and co-presented with some of them at a national education conference. Although I did have established connections with some teachers at both schools, I did not and do not wish to position myself as an "insider" to the research. Instead, I heed the advice of Griffith (1998) who has described how the insider/outsider dichotomy lacks complexity, and that rather, "the reflexive character of social inquiry" is critical because as researchers we are always "both insiders and outsiders to the stories we explore" (p. 362).

Recruitment began with requests for volunteers during informal conversations with teachers as well as via the school principals who emailed a selection of staff to

call for additional volunteers. At North Bank Primary, the principal suggested asking for some staff from each year level and those who she felt, from her own knowledge of teachers, would provide a cross section of views (for example one teacher had extensive computing experience having worked previously as a lawyer; another had minimal computing experience). At East Side High, the principal also emailed a range of staff including some teachers I hadn't worked with previously, and some from various faculties and units (including the school's Special Education Unit). Although representative sampling is not a requirement in institutional ethnography since informants are not considered to be a "sample" (Smith, 2006b, p. 32), at both schools, I sought to include a diverse range of volunteers, for example seeking teachers with a range of teaching experience, levels of seniority, teaching grade level(s), faculty, gender, ethnicity and age. In addition to seeking the perspectives of teachers from a primary and a secondary school located in two different geographic and socioeconomic regions, I followed the work of other institutional ethnographers such as Griffith and Smith (1990), Manicom (1995) and Kerr (2006) who sought a range of participants able to report on different circumstances and perspectives. Using snowball sampling, I included new participants on the recommendation of existing participants. DeVault and McCoy (2006, 2014) describe that it is common for institutional ethnographic work to use interviews as a source of information to direct research. According to Smith (2006), when planning an institutional ethnography, "you aren't able to previsage what it is that you are going to do, or what you are going to discover" (p. 46). Instead, she suggests that, "isn't stumbling around an integral part of the process?" (Smith, in Diamond, 2006, p. 46).

Participants were provided with an information sheet and reminded that their participation was voluntary and confidential prior to providing informed consent. I undertook semi-structured interviews with 14 teachers from North Bank Primary and 10 teachers from East Side High, as well as undertaking ethnographic field-work including collecting work samples, lesson plans, observing classes, attending staff meetings and having informal conversations in the playground and at a nearby café over the course of six months. In addition, I drew on recordings of meetings and interviews with the two principals that were also attended by four additional (secondary) school principals and an additional 12 school leaders. Including school

leaders and teachers with various levels of seniority (for example "master teachers[3]" and heads of department as well as beginning teachers) provided an opportunity to include informants from different standpoints and knowledge of the extralocal texts governing ruling relations.

In addition to asking teachers to talk me through work processes (during the semi-structured interviews), I also asked teachers to share work samples. Many teachers elected to do so, bringing their laptops and hardcopies of spreadsheets and the like to the interview, demonstrating how they went about their work. Together we discussed where particular forms of work originated, what teachers were required to do, and where it was sent once they had completed required tasks. Others invited me to their classrooms after interviews to explain how they went about their work, and to share documents they used in their classrooms such as web-based classroom management programs used on electronic whiteboards; video evidence of student learning; and databases accessed on desktop computers. Others provided data on USBs or emailed me copies of documents. Combining interviews and discussions with teachers, various documents that teachers had shared, as well as my own observations, was a way of inquiring into "how things work as they do" (Campbell, 2003, p. 11). This data collection method also served as a means of identifying key texts and understanding sequences of activities known in institutional ethnography as "processing interchanges" (Pence, 2001). Pence describes processing interchanges as the processes in which texts come in, are worked on, and are then passed on to the next position in the sequence for further action. As teachers talked about texts that were part of their work, I asked them where these had come from; what work they did with the text; and where it went after they had completed their work. Explicating processing interchanges was vital in establishing a picture of how teachers' work was being coordinated extralocally.

Capturing what teachers do with data was not always easy, partly because a great deal of work was deemed unimportant by teachers, and because professional and institutional language frequently "makes the actual work disappear" (Smith, 2003, p. 63). A number of times as I prompted teachers to walk me through the details of actual work they undertook and the processing interchanges, teachers commented

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[3] Master teacher positions are funded by the Department of Education and Training. 2014 NAPLAN data was used to allocate master teacher positions to schools across Queensland with the stated aim being to improve literacy and numeracy outcomes. See section 4.5.4 for further information.

that they were surprised that I was interested in the mundane aspects of their work. The challenge was to get "behind" (Smith, 1987, p. 64) the professional and institutional language in order to understand what it is that teachers actually do. As Smith (1987) describes, the research process should begin by "persuading people to talk about the everyday worlds in which they are active" (p. 188). Although this work is often considered to be dull and unremarkable, it is central to "the ideological work of the system" (p. 93). This approach also responds to Silverman's (2012) challenge to qualitative researchers to move beyond accounts and feelings and instead focus on capturing what people actually do.

For this reason, and because I wanted to focus on the operation of ruling relations, I chose not to present individual cases of teachers or principals, which may position them as uni-dimensional subjects or as a stereotyped version of a particular kind of teacher. Instead, I hope that the analysis and excerpts of teachers' accounts I have included foreground not only teachers' embodied experiences, but also demonstrate how teachers' work is orchestrated and in so doing, reveal the ideological code at work.

I now provide a brief description of the two schools in which the research was conducted.

2.3.2 Locating the schools

As described above, both schools were participants in the aforementioned ARC Linkage project. Both were also Independent Public Schools (IPS) in Queensland, Australia. The IPS initiative, which commenced in 2013 essentially affords state-run schools with greater autonomy including providing principals with financial flexibility via a one-line budget grant; as well as flexibility in staffing and curriculum decision making (Queensland Government, 2013). Although being a teacher in an IPS school was not a part of the selection criteria for participants in the research, it is a part of the emerging policy context. A full discussion of the move towards IPS structures is beyond the scope of this thesis, however it is worth noting that the experience is certainly not unique to Australia (e.g., see Lipman, 2011; Stevenson & Wood, 2013; Trimmer, 2013; West & Bailey, 2013), and is an example of ideological moves towards marketisation and steering-at-a-distance (Gobby, 2013). The secondary school (East Side High) became an IPS school in 2013, while the primary school (North Bank Primary) achieved IPS status in 2014.

North Bank Primary

North Bank Primary School is a metropolitan primary school located in the heart of a major Australian city. North Bank serves families from an above average socioeconomic range (according to the federal government's *My School* website[4]). The school serves a diverse local community with almost one third of the students speaking a language other than English at home. It currently enrols approximately 800 students, which is well beyond the school's suggested capacity. However, the movement of parents into the local catchment area in order to qualify for enrolment means the student population continues to grow. Enrolment management is compounded by the school's location in the same catchment area as a relatively prestigious secondary school where it has been reported by both teachers at North Bank and in local newspapers that it is now common for families to move into the suburb in an attempt to ensure their children attend both North Bank Primary and the local high school. This marketised environment has also seen the school experience a significant increase in enrolments of students with minimal or no English language proficiency. Many newly arrived immigrant families were enrolling their children at North Bank towards the end of primary school[5], which affords the school little time with students before NAPLAN tests. Nevertheless, North Bank Primary continues to achieve NAPLAN results that are by and large above the national average. The school employs approximately 50 teachers.

East Side High

East Side High is a large secondary school located in a regional township. According to the federal government's *My School* website, when compared with other local secondary schools in its region, East Side has a significantly lower socio-economic rating and is classified as "below the national average" socio-economic rating, although not drastically so. Nevertheless, the school serves an increasing number of families that are not in a position to pay for basic school supplies, and students who are homeless or living in shelters and campsites. During one interview, the principal described that "our community is going through a downturn. If you walk down the

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[4] *My School* (www.myschool.edu.au) is a publicly available website that contains NAPLAN data and a range of other information on approximately 10,000 Australian schools. Individual school results are shown in comparison with so-called "like" schools as well as against the national mean.

[5] During the period of data collection, Year 7 was still undertaken in primary schools in Queensland. Students enrolling in Year 7 with minimal or no English were at school for approximately 12 weeks prior to Year 7 NAPLAN testing in May.

main street of East Side, you will see something like 10 or 12 shops that are shut out of 25. It's low socio-economically, and the community … the aspirations of the families are not high as a result. We're quite aware of that". The principal and his leadership team have worked hard over the past five years to maintain enrolments. The school currently serves more than 1,000 students from the local area, however the largest feeder school has experienced a significant decline in enrolments (dropping by approximately half) as parents have moved to other schools (including large private schools) in the local education marketplace. Some years ago the school was described in a local newspaper as being "the worst in the region" because of its poor NAPLAN results. Nevertheless, in the past five years the school has made strong gains and is now only "significantly below" the national average in a small number of NAPLAN domains. It is primarily "below" the national average, and has even achieved a small number of domains that reach "close to" (although still below) the national average each year. The school employs approximately 100 teachers.

2.3.3 Discovering and assembling research data

This section outlines the process of data collection, including how data were selected and organised. Over a period of two years, I collected a corpus of research data concerned with teachers' work with numerical data. The corpus is comprised of four data sets:

1. A collection of research data collected at the two schools that were the primary research sites. This included transcripts of semi-structured interviews with teachers and school leaders from the two schools; field notes taken after informal conversations, attendance at school professional development sessions, staff meetings and lesson observations.

2. A collection of texts produced within the two schools. This included texts produced by teachers (such as mark-books, spreadsheets, video-recordings of lessons, assessment items and emails) as well as texts produced by the school (such as school policies, procedures, marketing material and reports).

3. A collection of video recordings, audio recordings and transcripts from meetings and interviews attended by school leaders (principals, deputy principals, heads of curriculum, heads of department and the like) and teachers from the six partner schools participating in the ARC Linkage project, "Ethical leadership: A collaborative investigation of equity-driven evidence-based school reform".

4. A collection of publicly available texts including policy documents and related material (such as submissions to government); and media reports.

The collection of this range of research material was important because it provided the opportunity to use teachers' experiences as an entry point, before analysing how these experiences were situated within a wider set of textually-mediated ruling relations. Comparing discursive practices across these data sets also provided a means of understanding the numerical data that was authorised or authoritative; and those that were not. Reading across these data sets highlighted the contradictions, tensions and fault lines (Smith, 1999) that existed in teachers' work. It illustrated who was authorised to mandate particular courses of action in schools and who was not; who was authorised to know about particular policies and numerical data, and who was not.

The first data set (my records of interviews, conversations and observations at each of the schools) was central to analysing teachers' work. Interview transcripts, records of conversations and observations were not recorded to document particular truths about teachers' work (which would be impossible anyway given the heterogeneity of teachers' experiences and opinions), but rather "as the *point d'appui* for sociological inquiry" (Campbell, 1998, p. 55). This work was important since institutional ethnography analyses relations, not in the abstract, but from the entry point of "some particular person or persons whose everyday world of working is organised thereby" (Smith, 1987, p. 160). Smith (2005) describes the constitution of the everyday world as a process of "recognising that the activities of individuals are not only concerted in the immediacy of the everyday. They are implicated also in the organisation of extended social relations.... in which many individuals unknown to one another may be active" (p. 133). Smith's (2005) own definition of institutional ethnography provides a useful summary that highlights why it was necessary to reach beyond the first dataset [italics in original]:

The aim of the sociology we call "institutional ethnography" is to *reorganise the social relations of knowledge of the social* so that people can take that knowledge up as an extension of our ordinary knowledge of the local actualities of our lives. It is a method of inquiry into the social that proposes to enlarge the scope of what becomes visible from that site, mapping the relations that connect one local site to others (p. 29).

The ultimate aim was to enlarge the scope of the research to map the relations that link the embodied lives of real people in real places to the translocal (for example teachers in different schools) and extralocal (for example how an international organisation such as the OECD can write a text that orchestrates teachers' work on the other side of the world).

The second data set (the texts produced at the school level) was important because it provided textual evidence of teachers' work. Teachers' work samples were often linked to policies mandated at the school level, as well as to the texts in the fourth data set (publicly available texts). Reading across multiple layers of texts was central to mapping how teachers' work at the local level is inextricably linked to complex ruling relations that are tied together by complex webs of interrelated texts.

The third data set was a set of video and audio recordings collected as part of the ARC grant in which this doctoral research was situated. Although it was not collected directly for the purposes of this research, in many ways it established crucial links between teachers' embodied work and publicly available texts. As Silverman (2012) describes, a great deal of qualitative research is biased towards the use of "manufactured" data such as that collected in interviews and focus groups, while ignoring "naturally occurring data". Silverman (2012) describes "naturally occurring data" as "material that appears to arise without a researcher intervening directly or providing some 'stimulus' to a group of respondents" (p. 50). A number of these recordings were of meetings attended by school principals, heads of department and curriculum, and deputy-principals participating in the ARC research project. The meetings took place at the university and at the schools over the course of three years. The meetings were attended by university researchers who were also members of the research team, however in many cases, the discussion between school leaders is naturalistic in that it occurred without stimulus from a researcher. This data set was an important means of tracing "intertextuality" and therefore

mapping the operation of relations of ruling (Smith, 2005). The term "intertextuality" refers to "the relations and interdependence of texts, which are ordered in hierarchies in relation to one another" (Bisaillon, 2012, p. 615). As Smith (2005) writes, "higher level texts establish the frames and concepts that control and shape lower level texts" (p. 226). While teachers were not always aware of why particular school-based policies were enacted, principals and school leaders often talked at length about how their decisions were tied to decisions made by education department bureaucrats and politicians. The third dataset was therefore vital in building up an empirically traceable picture of textual hierarchies.

The fourth dataset (policies and publicly available texts) was collected with a view to mapping the key texts that were organising teachers' work and were central to the operation of ruling relations. This data set also provided an insight into the common-sense truths that exist about data and teachers' work in the public domain. Both media reports and policy texts discursively construct data, education and teachers in ways that authorise certain actions whilst limiting other possibilities. This data set required extensive internet searching with careful attention to intertextuality (Smith, 2005), as well as liaison with teachers and school leaders to obtain copies of key texts. During the period of research, I also collected publicly available texts including newspaper articles and online comments, legislation, government press releases, policy documents and statements and the like. In reading these documents, it was often necessary to trace documents, for example where a Queensland policy was a result of a federal government decision, I collected both documents, and oftentimes, related documents such as directives, reports, preceding policies and the like. At times, this also meant tracing the document production of individual authors to understand how texts were part of a set of ruling relations (Smith, 1996) and networks. For example, media articles by Rob Randall were read with an understanding that Randall is also Chief Executive Officer of ACARA (which oversees NAPLAN); Geoff Masters' reports were read with the knowledge that he is Chief Executive Officer of the Australian Council for Educational Research (ACER); and so on. Understanding the authority given to particular interest groups (such as ACARA and ACER) and individuals such as Randall (and others) was important in my analysis of how public and policy discourses served to create certain common-sense truths about data, education and teachers.

Because institutional ethnography as a sociological inquiry looks for replicable texts to map the operation of ruling relations, reading and cross reading each of the four data sets was fundamental to building up a picture of textual chains and relations that coordinate social relations. A great deal of data collection in this set occurred during analysis as intertextualities became clearer, until I reached the point of "saturation" at which point "the variations and contradictions within and between the subjective experiences of teacher-participants and the official texts of the institution were sufficiently clear that the ideological code became apparent" (Kerr, 2006, p. 47). This dataset also helped to clarify ruling relations as I explored the websites and texts of other schools in the state, where I often found similar texts and policy enactments in which schools and teachers were held accountable for student achievement data. A summary of each of the datasets is provided in Table 2.1.

Table 2.1 Research datasets

Dataset One	Dataset Two
Research data collected from the two primary research schools, including semi-structured interview transcripts and field notes	Texts produced within the two schools, including teacher work-samples and school policies
Dataset Three	Dataset Four
Data collected from meetings attended by the six ARC school leadership teams, including audio and video recordings and transcripts	Publicly available data, including policy documents and media reports

While my first research goal was to explore the embodied experiences of teachers, the subsequent goal, as in any institutional ethnography, was to use these to bring the institution into view. Teachers' accounts of their experiences and work (dataset one), as well as school leaders' accounts (dataset two) were the entry point for locating the institutional texts that required further investigation (datasets three and four).

2.4   ANALYSIS

Institutional ethnographers commonly refer to data analysis as a process of "explication" (Walby, 2012). In this section, I outline the analytic process used in this research. As described above, analysis normally precedes by understanding the embodied experiences of research informants, in this case teachers, before moving to

map the operation of ruling relations. I therefore begin by describing the process of understanding teachers' standpoints and conclude by explaining the process of reading across the datasets to explicate the operation of ruling relations.

2.4.1 Interviews, transcribing and transcripts

The analytic process began during and after interviews. Shortly after each interview, I listened to the recording, paying careful attention to the disjunctures between teachers' experiences and policies, as well as to the key texts described, and the ways in which they were activated. A surprising aspect of the data collection process was the emotional responses of a number of interview participants. In asking teachers to talk about something that might be considered as dry as "data", a space was opened up for them to talk about their work and on several occasions, discuss their distress at the ways in which their work was changing. However, as Rankin and Campbell (2009) describe, the role of an institutional ethnographer is not to code or theorise the concerns of research informants, but instead to explore the disjuncture by examining the often invisible everyday work of frontline workers to expose the operation of ruling relations. At times I found it extremely challenging to move beyond these raw, emotional exchanges. However, as Smith (1997) reminds us, mapping the operation of ruling relations is central to the sociological project, regardless of "[how] moving and instructive such [individual] accounts may be" (p. 131).

At this stage, I used document management software OneNote to compile early analytic notes that included issues that teachers reported were causing them distress, and to list key texts that were mentioned repeatedly, and to begin the process of mapping descriptions of process interchanges that suggested the operation of ruling relations. I also took note of the texts that teachers had shared with me (either in hard or soft copy) and texts that teachers made reference to which would require follow up, for example by asking the school principal for copies of school generated policies that directed teachers' work. Here I also noted texts that would require collection and textual analysis, including departmental policies and procedures, government policies and other official texts.

Transcribing interviews was an essential part of the research, not a mechanical job that I wanted to outsource. I began transcribing shortly after each interview. At the outset, I used pseudonyms for all teachers, students and place names with a view to safeguarding participant confidentiality and anonymity. During transcription, I

realised that de-identification through the use of pseudonyms may not protect participants. As such, where participants might be identifiable through distinctive personal characteristics or stories, these were sometimes altered so that substantive content and key elements of the story were retained without compromising the anonymity of the informant. In cases where I felt the teacher was at particular risk of identification, I discussed this method with the teacher and obtained verbal consent to make such changes. In all cases, the focus was on "disguise" not "distortion" (Wiles, Crow, Heath, & Charles, 2008, p. 426). My goal in all cases was to protect the identities of individual teachers and students (including those who I did not interview but who were mentioned during interviews), while retaining the standpoints and opinions of each informant.

Since institutional ethnography begins from the standpoint of people, I also felt it was important not to subjugate a professional transcriber, or even family members who kindly offered to help, which would have silenced their labour for my research. As Downs (2010) writes:

> Transcripts are the con artists of the research world. In the first place, they stay silent about the means of their production. Where is the frustration of not quite catching a phrase mumbled, a word slurred? Where is the sense of the piecemeal, fragmented nature of transcription, of arduous, tortuous progress and fatigue? Where is the sense of back and forth between text and recording, recording and text?

Silencing the work of outsourced transcribers is enmeshed with the view of transcripts as neutral products that are true accounts of personal interactions. Instead, conceptualising transcribing as central to my own research labour allowed me to analyse the texts themselves as having been produced as a part of the analytic process. Having undertaken transcription over the previous five years as part of my work as a research assistant had already given me an understanding of the invisibility of transcription to many research projects. This tiring, and often back-breaking work always involved decisions – what to include; what to edit; what to discard – that produced a seemingly technical product. In transcribing my own interviews, I was able to ensure my interview data was rich by paying particular attention to emotional responses, the use of humour and tone, and my own memories of gesture and body language. DeVault (1990) has described the importance of transcribing in ways that

"preserve the messiness of everyday talk", something I returned to after my initial attempts at transcribing. The retakes and thinking out-loud that were evident in transcripts allowed me to look for the moments when teachers were finding the right words to explain their experience – their feelings, their work and their decisions. There were many instances of this kind of talk, for example in one interview a teacher, Julie, said, "well… like, I've never had a HOD [head of curriculum] discussing individually because I've always, I think, gone to the HODs first…" Here, it seemed Julie was explaining her experience to herself, as if for the first time. The messy language, signalled by the words – well, like, I think – preserve her uncertainty.

Similarly, including my own observations of gesture and tone were important because it provided greater information for analysis. For example, Patrick's whisper that "y' know, I was… at times I was sitting there and going (*Patrick scratches head and looks confused)… (Whispers)* this is just rubbish". The notations of these "dialogue accessories" (DeVault, 1990, p. 106) such as ellipses to indicate pauses, gestures and facial expressions, and tone (whisper) were not intended to be perfect or accurate accounts, but rather, to provide rich analytic data that reflected teachers' experiences, feelings and opinions. Thus, while I acknowledge that the process of transcription is inevitably interpretative, undertaking this process was intended to provide a more accurate representation of teachers' standpoints. Transcription became both "product and methodological process" (Bird, 2005, p. 226). As a text, each transcript was an account of teachers' reported experiences, feelings and histories.

In framing questions for semi-structured interviews, I wanted to begin by exploring teachers' accounts of their experiences of working with data – how they felt about it, what they did and how data was changing what it meant to be a teacher. Using an institutional ethnographic strategy, I wanted to build "relevance" (Griffith & Smith, 2005, p. 41) for both myself as interviewer as well as for the interviewees. At the conclusion of many interviews, many interviewees thanked me for the opportunity to be heard, and described how the interview had pushed them to think in new ways about data and their own work. However, in one interview, with Patrick, a visual art teacher at East Side High, this relevance was not so easily established. Griffith and Smith (2005, p. 41) describe a similar experience in their own

institutional ethnographic research, and explore the possibilities when research participants do not participate in the discourse and its moral logic. On reflection, Griffith and Smith (2005, p. 41) concluded that their interviews and conversations were framed by an unthinking use of the very discourse it was intended to investigate. When I spoke with Patrick, it became clear that data driven practices and moral logics did not organise his teaching life or his beliefs about education. During the interview and when listening to the audio recording, I felt that at times my interview questions were disconnected from Patrick's responses. While most teachers and I talked easily about how they engaged with data, for example with a view to improving student outcomes, this was not the case with Patrick. His responses indicated that he did not participate fully in this discourse, instead talking about happiness, equity, creativity and fairness. For example, when I asked him to describe the data that he is required to collect, Patrick said that: "Well I don't know if it's mandated. But I suppose as a teacher what we have to do is… well should I talk about marks and achievement and that sort of stuff?" He went on to describe that:

> Well I would say [when I think of data] I think of how do I come to my decisions? My kids usually work from a visual diary. So a lot of what I do is observation. So I am observing what they can do. The other thing that works really well in an art room is questioning. So another way I have to do it is I question whether they understand.

I had assumed that teachers would describe their work with various forms of (most often numerical data) that were inscribed in institutional processes and policies. However, Patrick did not use this language, instead, drawing on his students' work and his own processes of assessing knowledge and ability. Observation, questioning and artistic practice were central to Patrick's work. This was markedly different to the responses of other teachers who I interviewed at both East Side and North Bank. Although he worked within the same educational system, Patrick did not speak naturally about quantitative data as driving his own work or the lives of his students. Patrick had recently been interviewed by a Vocational Education and Training [VET] auditor, and described a similar experience of disconnect:

> Yeah so when he came to the questions, it was a bit like when you asked me the first question [what data are you required to collect?]… it was a difficult question. Even though we do it all day, every day, it is a difficult question. And we *do* do it. But it is an interesting question. And he asked… see VET

is interesting because you are either competent or not. So there is no A, B, C or D. You're judged to have shown enough evidence that you are competent in this little detail of competency. So the competency could be called, 'use specific drawing techniques'. And then there is a whole list of elements. And when he said to me, 'well how do you decide that?' I drew a blank you know.

DeVault (1990) has also described how paying particular attention to moments when interview participants "got stuck and worked at articulating thoughts they were not used to sharing" is useful because it may point to moments that are grounded in experience, rather than language. Although Patrick went on to explain how he came to his decisions, his responses often seemed to be moments in which he struggled to find the words to describe experiences he had not previously had to share. During the interview, I wondered why my interview with Patrick was less fluent, and why we were unable to connect our questions and responses in the same way I had done when I spoke with the other research participants, particularly given that I already had an established research relationship with Patrick. For other teachers, the dominant institutional discourse was at work, shaping our conversations, interpreting situations and asserting its logics. Describing their own disconnects with interview participants, Griffith and Smith (2005) contend that "it is of course, from such failures that the researcher learns as much, if not more, than from her successes. Discourse offers a language that is both enabling and restricting" (p. 41). Patrick seemed to wonder out loud about his own experiences and the logics that operated unseen in other interviews. In this way, he brought to light the very social relations I wanted to explore, and the disjuncture between the responsibility to generate and record data for institutional purposes, and his own accounts of his embodied experiences.

In analysing the transcript data, it was important to consider ways of examining the language used by teachers and evident in texts critically in an effort to avoid what Smith (2006b) describes as "institutional capture". Smith (2005) describes institutional capture as "that discursive practice, regulated by the institutional procedures of text-reader conversations, through which institutional discourse overrides and reconstructs experiential talk and writing" (p. 199). Careful attention to the language and texts that were insisted upon, repeated and reiterated by teachers was helpful in unravelling the operation of ideological circles. Smith (1987)

describes ideological circles as being "laid down in and inhabit[ing] organisational forms separating those who theorise, formulate, conceptualise, and make policy from the front-line workers who experience the actual ways in which the organisation interrelates with its objects. Those in actual contact with those who are the objects of action are not those who frame the policies, categories and concepts that govern their work" (p. 95). The language of "U2B [Upper Two Band] Kids", "stanines" and "data placemats" often seemed to dominate teachers' talk. Although I worked to ensure interviews retained a focus on teachers' embodied experiences, this institutional discourse was helpful in directing my attention to institutional texts and language that would require further analytic attention.

As a researcher working in education and a former teacher, it was also important to undertake reflexive work as I transcribed, read and re-read my research data, making efforts to take a critical view of the institutional language. McCoy (2006) describes this process as "a dialogue with the data" where the data analysis stage requires a "rethinking" (p. 122) as the researcher considers her own use of language. Taking this approach and attempting to step outside of institutional discourses allowed me to analyse discourses that might have otherwise gone unexamined. This process of dialogue between institutional ethnographer, transcripts, field notes and institutional texts (assembled in datasets two and three) was central to the process of looking at local practices and looking for what McCoy (2006) describes as "institutional traces in people's accounts".

2.4.2 Reading across the datasets

In reading texts from each of the four datasets, discourse analysis informed by the work of Smith and others in the tradition of institutional ethnography have been employed. The work of Foucault was also applied, as described above in Section 2.2.5. Thus, the outcome was never intended to be ethnographic accounts of teachers' experiences at the two schools. Because institutional ethnography follows process interchanges and seeks to discover how things work, "reject[ing] the leap into theoretical thinking" (Rankin & Campbell, 2009) and abstract categories, it remains "a determinedly empirical project" (McCoy, 2008, p. 706).

As Smith (2005) describes, the task for an institutional ethnographer is to move beyond accounts of local happenings in order to understand how the everyday work of real people is organised and coordinated from beyond the local. Therefore, once

transcription of the interviews was complete, I began to re-read transcripts, looking for traces of institutional ruling structures, as well as to examine key texts I had seen or heard about at the two schools. As I began to read across the datasets, a key task was mapping workflows and process exchanges by examining how teachers handled texts: where they came from; how they handled them; what work was created as they were activated; and how they were passed back into the institution. I looked for ways in which institutional texts "unleashed" (Comber & Cormack, 2013, p. 82) further sequences of events, including the generation of additional institutional texts. This work led to additional textual data collection (for example, accountability and funding policies) as I explored textual hierarchies and the organisation of texts that were tied to funding and accountability measures. At this stage I also spent time listening to audio recordings of meetings with school principals that had been collected as part of the ARC project. These accounts were important as they provided vital clues and connections for tracing teachers' embodied realities to extra-locally produced texts, and to explicate intertextual hierarchies.

A focus in reading across both teachers' accounts of their work as well as institutional texts from each of the datasets described in Section 2.3 was to look for the institutional texts that were activated in ways that made teachers and principals institutionally accountable. By following sequences of events and mapping accountabilities, the operation of ruling relations began to emerge. Rather than coding data according to themes, as would be done in grounded theoretical approaches, I followed chains of textually-mediated events and accountabilities translocally. For example, I explored questions such as who was accountable to whom for producing additional student achievement data and for ensuring targets for student achievement were met. Gathering publicly available data such as newsletters and school annual reports from across the state was also a way of understanding the translocal operation of relations of ruling. Texts became the "clues" in the process of unravelling ruling relations because they "are imbued with discursive influences and have a strong mediating role in people's actions" (Ng et al., 2013, p. 5).

The process of comparing official texts, texts that were produced in process interchanges and participants' experiences (both teachers and school leaders) continued until a picture of the ideological code and operation of ruling relations emerged. As Kerr (2006, p. 47) describes, institutional ethnography's credibility is

not derived from scientific methods that require proof or validity and reliability, but instead relies on the use of multiple methodological techniques to triangulate data. At this point of analysis, teachers' testimony in interviews and conversations were cross-checked with other teacher-informants as well as school policies and the like; principals' claims were cross-checked with departmental policies and information on the websites of other schools in the same region as well with the testimony of other school leaders. At times I asked teachers and principals for clarification or assistance in finding an institutional reference point to validate statements made in meetings and interviews. Similarly, I checked institutional claims made in policy texts and the like with schools in order to gain a more fulsome understanding of how texts were being activated across the institutional hierarchy.

This process of mapping and triangulating data was time-consuming, as I searched for texts that were sometimes well concealed in institutional structures and not obvious to the participants themselves. One example of this was a regional policy to support one of the schools to bring about rapid and significant improvements in NAPLAN data. Although the policy had been mentioned by the principal, deputy-principal and a number of the teachers, there was little publicly available documentation to elaborate on its operation. The principal himself had not been provided with any official policy texts, and the region did not supply a copy when requested to do so. In order to understand the policy and its implementation, I audited the websites of schools in the region (more than 200) and searched for related documentation (which included a copy of a presentation on the project from a national education conference). The analytic work of reading across datasets, triangulating official accounts with the embodied experiences of teachers also prevented the research being "stalled at the point of classifying the experiences of research participants" (McCoy, 2006, p. 117).

As Kerr (2006) describes, the institutional ethnographic analytic process differs from purportedly "objective" or "scientifically rigorous" methodological approaches which privilege official accounts such as statistical data. Rather, she describes that the strength of this approach is not only due to the use of multiple research techniques (such as case study, interviews, textual analysis and the like), but also because it "break[s] through surface 'common sense' to access a 'truth' beneath that which appears to be the case at face value" (p. 47). In line with Foucault's notions of

"truth" (e.g., Foucault, 1975/1995), I question the existence of an "underlying truth". Nevertheless, because this research seeks to problematise the use of numbers as a form of evidence and a taken-for-granted "truth" about education, it was important to make use of a method of inquiry which similarly rejects notions of "evidence" as neutral or objective, particularly in the current era in which qualitative research that resists scientific, positivist research procedures such as randomised control trials has been derided for "not meeting evidence standards" (Denzin, 2009, p. 141). Scholars such as Hammersley (2005), Torrance (2006), Simons (2015) and others have argued that qualitative researchers must clarify myths around the suitability of positivist "evidence" for qualitative inquiry, including using "soft quantitative grids" (Denzin, 2009, p. 149) that are frequently used to group qualitative evidence "into meta-analyses of effect sizes" (Torrance, cited in Denzin, 2009, p. 149). For Hammersley (2005), qualitative researchers must not "be seduced into illusions about ourselves and our work" (p. 5), instead resisting the pressure to deploy hegemonic, quasi-quantitative methodologies. Morse (2006) argues that qualitative researchers should consider that if the research evidence "is considered not valid, not replicable, not acceptable! We have failed to communicate the nature of qualitative evidence to the larger scientific community … we have failed to truly understand it ourselves" (p. 415-416). Whilst institutional ethnography does not prescribe a particular methodological process, the work of mapping evidence across multiple datasets to establish the operation of power relations provides a rigorous, qualitative method that can be communicated to the wider education and research communities.

2.5   ETHICS AND LIMITATIONS

In this final section of the chapter I describe the ethical considerations for the project, as well as limitations of the study.

2.5.1 Ethics

This research was granted ethical approval by the Queensland University of Technology Ethics Committee. The wider ARC study "Ethical leadership: A collaborative investigation of equity-driven evidence-based school reform" was granted ethical approval from Education Queensland and the Queensland University of Technology. I also sought approval to conduct research from the two school principals prior to undertaking the research. Participants were provided with an

information sheet and were subsequently asked to provide informed written consent. Research informants were informed that they had the option of withdrawing their consent at any time without penalty of any type, and that they had the opportunity to read transcriptions of interviews if they would like. At both schools, participant information was sent via email and a hard copy was also provided prior to the commencement of the interview. Principals and school leaders who participated in the ARC research also provided written consent via the project's ethics processes. Pseudonyms (for both individuals and place names) have been used as a means of providing participant anonymity. In addition, details and accounts that may reveal participant identities have been altered in order to preserve both confidentiality as well as substantive intent. The transcription and de-identification process is described above in Section 3.4.1. I applied similar processes during the analytic phase of the research. For example, I have elected not to specify if direct quotes from principals were made by secondary or primary school leaders unless it was analytically useful to do so.

Aside from procedural ethics as described above, ethical research is important in institutional ethnography. Because the theoretical framework begins with the standpoint of research participants, and resists objectifying participants, it was important to respect the experiences of teachers by listening carefully to their accounts, reporting their experiences as accurately as possible and avoiding judgements. As an early career researcher, this was not always easy, and I am especially grateful to my supervisory team for drawing attention to the times when evaluations and judgements crept into my analysis. Confidentiality when working with teachers and school leaders was also critical to the research. Although I had permission from the principals to work in their schools, it was critical that they understood that this did not equate to my sharing of teachers' accounts with the school leadership team. I am also extremely grateful to the two school principals who at no time requested information, and who also encouraged a range of teachers to participate in the study. The principals supported teacher participation in the research even when they believed that there was the potential for personal critique of their leadership.

The following section outlines limitations of the study.

2.5.2 Limitations

As with any doctoral study, a combination of logistical, temporal and theoretical decisions and realities limited what was possible throughout the research period. At the outset, the selection of schools and teachers was drawn from the six schools participating in the wider ARC Linkage project, limiting the number and range of teachers I spoke with, and the contexts within which they worked. For example, none of the ARC project schools were located in remote locations, and none served communities in which extreme poverty and low-socioeducational opportunities was a significant issue. In addition, the two schools in which I undertook the research were both Independent Public Schools (IPS), which provided the school principals with greater managerial and financial discretion than non-IPS state schools. Clearly, these local realities were important in shaping teacher experiences, and therefore also shaped the research data.

My existing relationships with teachers at the schools also impacted teacher participation. At both schools, I interviewed teachers with whom I had not previously had relationships, but acknowledge that my existing relationships with many of the teachers impacted on teacher recruitment. For example, more volunteers from East Side High came from English and humanities faculties, with only one from the science faculty. In part this was because the maths and science teachers I had worked with previously were either no longer at the school or had moved into more senior positions and were unavailable to participate in the study, while the arts, humanities and language teachers remained in class at East Side. On a pragmatic level, these relationships were important, because as Smith (1996; 1987, p. 185) describes, undertaking an institutional ethnography requires a shift from traditional sociological methods (where objects are studied) by an "outsider" (the researcher) towards recognising that there is a relationship between researcher and embodied "expert" participant-informants, in this case teachers.

Although the selection of a primary and a secondary school was an intentional decision that was intended to explore translocal ruling relations in different education settings, it also meant that some aspects of research data collection were not fully explored. At East Side High, senior secondary data that is used for university entrance was an important form of data collected and monitored by the school. On examination of the research data, including teacher and principal discussions, and

examination of institutional texts, I decided not to include this data in the research analysis. The senior secondary data and university entrance system in Queensland a complex, state based system that has been subject to recent criticism and ultimately to a review that will result in a new system being implemented from 2018 (Jones, 2015). The review (Matters & Masters, 2014), undertaken by the Australian Council for Educational Research, documented criticisms from key stakeholders including that the current system of internal (school-based) assessment is unworkable; that schools do not understand the system because of its complexity; that the juncture between tertiary and secondary institutions was not well understood and that schools were effectively "gaming" the system, for example by encouraging students to avoid the senior academic pathway or to choose senior subjects that would purportedly raise their scores. As such, any analysis of senior secondary data by teachers and principals in this research would have required an extensive literature review, including a description of the system, as well as a discussion of the proposed new system that includes a much greater focus on external examination-based assessment. As such, I elected not to pursue this analysis because of its complexity, and because it will cease to operate from 2017. Clearly research that documents the operation of the new senior secondary assessment and university entrance system from 2018 will be important. I note that the move towards standardised assessment and externally produced assessment sits within the ideological code of standardisation that is explicated throughout this thesis.

Because I conducted research in two schools, and drew on research data from six schools, I acknowledge that there may be a perception of lack of objectivity or generalizability. However, as described above (see Section 2.4.1), institutional ethnographic research intentionally resists scientific methodologies that privilege official accounts. Instead, its credibility lies in the rigorous analytic process of triangulating official texts with participant accounts to build a picture of translocal ruling relations. In line with the work of Smith and Foucault, I do not lay claims as to the neutrality of my research. As Smith (1990a) describes, the purpose of institutional ethnography is not going "after 'the truth'… but to know more about how things work, how our world is put together, how things happen to us as they do" (p. 34). My intention was not to make claims about objectivity, even generalizability, but instead to follow a rigorous method of inquiry that triangulated data from

embodied standpoints as well as official ruling relations in order to build a picture of how teachers' work is put together. In mapping ruling relations, it became clear towards the end of the research process that including regional departmental staff into the research design would have been useful. Although I worked to obtain regional data via school principals, publicly available data and through the work of other scholars, I acknowledge that regional and departmental staff would have provided additional data that could have been used to map intertextualities.

As I began analysing data, a range of phenomena became apparent that at times seemed to be analytic rabbit holes worth diving into. These included, the emergence of school structures based on quantified data (such as ability-grouping and streaming based on standardised data) and their impact in a marketised education system where residualisation has already been documented (Kenway, 2013); the increasing role of edu-businesses in schools and in teachers' lives; and the growth of new private industries (such as after-school tutoring businesses and publications). However, it also soon became clear that the thesis scope could not be extended in a way that would include rigorous examination of all these issues. Further discussion of these issues is raised in the final chapter, in Section 7.3.2 as recommendations for future research. In addition, although the research mapped how teachers' work is coordinated, it did not extend to an examination of how students and parents lives are being governed by the ruling relations explicated in this thesis. This limitation is also raised as a recommendation for future research in Chapter 7.

2.6 CONCLUSION

In this chapter I have provided an outline of the theoretical framework and method of inquiry that have guided the research. Guided by the work of Dorothy Smith, I have explored key concepts and explained how institutional ethnography is aligned with this study, because it starts from the standpoint of teachers before moving on to explore how ruling relations operate to govern teachers' work translocally. I also provided examples from the institutional ethnographic research literature to demonstrate how this theoretical framework and method of inquiry has been used by both Australian and international scholars to explicate the operation of textually-mediated ruling relations.

The chapter also provided an overview of the method of inquiry that guided the research, beginning with from the standpoint of teachers, who are at the frontline in the push for schools and systems to "improve student data" before moving into the process for data analysis. The following chapter provides a literature review of the sociology of numbers followed by a history of the quantification of education and teachers' work. It then proceeds with an overview of the contemporary political landscape in which teachers work.

Chapter 3: Literature review: The quantification of education

3.1   INTRODUCTION

As with all phases of research, compiling a literature review involves decisions about what is to be included; what is to be foregrounded; and what is to be left out. This chapter reviews key literature from a field that has become known as the sociology of numbers (or sociology of quantification), as well as providing a historical overview of the quantification of education in Australia. As Berliner (2015) points out, even looking at just one form of statistical data, PISA [the Programme for International Student Assessment], is like the parable of the blind men and the elephant, who each describe one part of the elephant but are unable to see or comprehend the whole. Berliner writes that "even were… many studies of the various facets of PISA competently completed, we [would] still not likely to have a good grip on the whole" (p. 1). The purpose of the chapter is not to provide an exhaustive account of the quantification of education, but rather, to examine historical events and the work of scholars that helps "give shape to the topic of interest" (Campbell & Gregor, 2002, p. 7-8).

    The chapter begins by examining key scholarship from the sociology of numbers literature. I then provide an overview of the quantification of education in Australia, firstly by examining early attempts at quantification through the Australian census; and then by examining the policy and discursive shifts that enabled widespread quantification of literacy and numeracy learning. The changing nature of federal-state government relations, and the use of numbers as key measures in determining funding and accountability structures were central to these events. The chapter then moves to examine how teachers' work is situated within these shifting relations. Finally, I present a review of literature on the use of numerical data in a context characterised by an increasingly globalised education policy context. This section examines the roles of global organisations and testing regimes. It also traces the links between quantification and the rise of edu-businesses, and the increasingly marketised education landscape. Together this body of literature explicates how statistical data has become "high stakes" at the local level by contextualising schools

within global and national education systems that link data to various accountability and performance management regimes.

3.2   SOCIOLOGY OF NUMBERS

The theorisation of statistics generally occurs within one of two discrete branches of thinking – the mathematical and the sociological (Desrosières, 1998, 2011). This research draws on key literature related to the sociological analysis of numbers, including their relationship to modern forms of power. This body of literature draws on historical analyses of statistics in society, and provides the theoretical underpinnings of a "sociology of numbers" (Gorur, 2016). The focus of analysis is on statistics and quantification as "the object of research, rather than the means of analysis" (Camargo, 2009, p. 903), and helps to explain how a culture of quantification has emerged in which numbers have become fundamental to modern forms of governance. The contribution of this body of literature, which explores the history of statistical thinking, has been to document the fundamental paradigmatic shifts that have paved the way for the quantification of education, and the reorganisation of education, governance and teachers' work that is explored in this research.

3.2.1 History of numbers

According to Hacking (1991), the ascent of quantification emerged from the eighteenth century onwards, and was connected to the rise in positivism and the scientific method. This era was marked by three stages, "the avalanche of numbers, the erosion of determinism and the taming of chance" (p. 189). The first stage, "the avalanche of numbers" occurred in the early 1800s as capitalism and bureaucracies emerged in which governments used numbers to manage populations. This period was characterised by a significant rise in the collection of data such as medical and mortality statistics about populations and subpopulations.   Michele Foucault's reworking of his doctoral dissertation, *Madness and civilization* (1964/1988) was a significant exploration of how subpopulations such as "the insane" are constituted. Hacking (1991) argues that the collection and assembly of statistics (such as the tabulation of causes of death) created an opportunity for the "explanatory power" (p. 177) of statistics to displace determinism. Prior to this, mathematical probability had been considered a "defective but necessary tool of people who knew too little" (p. 2).

By the end of the eighteenth century, the laws of probability and statistical reasoning had emerged through the works of notable statisticians such as Quetelet and Poisson Here, Hacking describes the "taming of chance":

> The avalanche of numbers after 1820 revealed an astonishing regularity in statistics of crime, suicide, workers' sickness, epidemics, biological facts. Mathematicians attempted an analysis of such phenomena. The great applied mathematician S. D. Poisson invented the term 'law of large numbers' in 1835 [to describe the] irregularities in mass phenomena [that] would fade out if enough data were collected. (Hacking, 1991, p. 187)

Thus, statistical patterns began to be used to explain past events and phenomena, to predict future events, and to establish normalcy. As will be explored below in Section 3.3, the collection of statistics, and the establishment of norms also provided bureaucracies with the opportunity to govern.

3.2.2 The socially constructed nature of statistics: "Making people up"

Alongside Hacking's (1991, 2006) insights into the use of numbers for the purposes of social control (2006, p. 6), he has made important contributions to theoretical understandings of how enumeration occurs, which he has described as the process of "making people up" (2006). Drawing on the work of Foucault (Hacking, 2004), Hacking refers to the process of classifying people into socially produced categories. As Desrosières (1998) describes, "statistical information [does] not fall from the sky as some reflection of a pre-existing reality" (p. 325). Porter (1996) has similarly argued that in order to become an object of quantification, "society must be remade… categories of people and things must be defined; measures must be interchangeable" (p. 201).

Although quantification and measurement are often assumed to be the same (or similar) practices, Desrosiéres (2008) points out that they are different because quantification requires agreement on conventions, such as the definition of the measurable object, and the means of measurement. Thus, quantification involves two stages: agreement on conventions and measurement. "The idea of measure, inspired by the traditional epistemology of natural sciences, implies that something exists in a format which is already measurable" (Desrosiéres, 2008 p. 3). Duncan (1984) and Porter (1994a) provide examples of the measurement of time to illustrate this point: while time has been measured for centuries, "this numbering was long subordinated

to the natural cycle of light and darkness. Time measurement became precise as clocks usurped this role from the sun" (Porter, 1994a, p. 202). E. P. Thompson's (1967) work similarly revealed how the industrial revolution marked a shift from conceptualising work as "task orientation" to "timed labour" in which time became a "currency…not passed but spent" (p. 167). Similarly, volume and area measurements previously included subjective judgments. For example, Kuta (1986) describes that early Polish villages defined land area according to soil quality and crop yield in which "a dispute would be resolved by calling in 'the most honest and experienced sower'" (p. 39) to make a judgment about how much seed could be sown in the area.

Foucault's (1970b) *Order of Things* explores how the use of presupposed, superficial categories enabled coherence to be established among objects by dividing and classifying, and ultimately, constituting knowledge. To demonstrate the socially constructed nature of categorisation, Foucault examined a list from:

> 'a certain Chinese encyclopaedia' in which it is written that 'animals are divided into: (a) belonging to the Emperor, (b) embalmed, (c) tame, (d) suckling pigs, (e) sirens, (f) fabulous, (g) stray dogs, (h) included in the present classification, (i) frenzied, (j) innumerable, (k) drawn with a very fine camelhair brush, (l) et cetera, (m) having just broken the water pitcher, (n) that from a long way off look like flies' (p. xv)

Foucault describes how his laughter at the list eventually led to his unease, and an exploration of how seemingly "incongruous" (p. xvii) objects (such as fabulous animals and stray dogs) could be linked together by a system of categorisation. As Desrosières (1998) describes, the ultimate aim of enumeration "is to make *a priori* separate things hold together, thus lending reality and consistency to larger, more complex objects" (p. 236). For Foucault (1970b), "the mere act of enumeration that heaps [objects] all together has a power of enchantment all its own" (p. xvi). The act of constructing *a priori* objects and categories paves the way for their existence and measurement.

3.2.3 Quantify and represent

The stated purpose of statistics, such as large-scale assessment data, is often described as being to "reflect reality" (Desrosières, 2001, p. 339). However, as Desrosières (2001) explains, "the very notion of 'reflection' implies an intrinsic

difference between an object and its statistics" (p 339). An examination of the history of intelligence test data, which purports to reflect the reality of intelligence, provides an insight into the important distinction between an object and its statistical reflection. Intelligence tests, which are still widely used, including in educational and clinical settings, emerged in the early twentieth century as a series of questions that would be scored and applied to a curve of normal distribution, with a mean of 100 (Hacking, 2006). When first devised by Francis Galton, women scored higher than men. Galton modified the test until the mean for women was also 100, in order to better reflect what he believed to be the "reality" of intelligence (Hacking, 2006, p. 24). Desrosières (1998) describes that controversies about statistics are therefore twofold: firstly, those that interrogate the measurement, for example the statistical processes and reliability of the measurement of intelligence; and secondly, those that question the object of measurement itself, for example by contesting the construction of intelligence as a social object. Similarly, moral and ethical debates often rely on the systems of categorisation that enable measurement. For example, abortion at three months can only be understood as murder if life is conceptualised as beginning at conception. As Bowker and Star (1999) describe, "determining the exact moment of the beginning of life by number or attempted breaths… cuts a Solomon-like figure… [while] at the same time, there is an element of reductionist absurdity here – how many breaths equal 'life'?" (p. 21). The deep moral and ethical questions about life are "erased" and "buried" (p. 21) by the mechanical and standardised processes of data collection, and aggregated into seemingly neutral and valid statistics. However, as Bowker and Star's (1999) analysis reveals, although classification and measurement obscures moral, ethical, political and social decisions, it also allows for governance, for example for insurance companies to make significant decisions based on the quantification of death.

Therefore, according to Porter (1996), quantification requires both a "quest for objectivity" and a "quest for standardisation" (p. viii). In education, as in many fields, numbers such as student achievement are presented as standardised and simplified reflections of reality. Although they communicate complex information and ideas, for example about the state of education across an entire country, the use of numbers in standard and familiar forms makes them readily accessible. In this way, statistics can be understood as "boundary objects" (Lomell, 2011, p. 201) that

share a common identity and allow multifarious stakeholders to make multiple interpretations over time. In reducing complex, local events into standardised forms, Rose (1991) describes that events must be "inscribed into standardised forms" that can be "transported" from the local (p. 676).

The reducing and summarising of complex events and phenomena using standardised techniques and processes has contributed to the global rise of quantification. Porter (1996) describes that for this process to occur, a "trust in numbers" and in calculative work must be established.

3.2.4 The rise of the calculative self and a trust in numbers

In producing standardised, inscribed forms of knowledge about populations, modern modes of power and "governmentality", or mentalities of government (Foucault, 1991) are made possible. To explain how this occurs Rose (1991) draws on the work of Latour (1987) to describe how governments and bureaucracies operate from "centres of calculation" (p. 676) in which there is agreement about the conventions of calculation and standardisation. According to Rose, the advantage of using these processes is that it allows the objects of government, such as student achievement, to be "inscribed so as to be compatible with the machinery of government" (p. 676). For this reason, Rose (1991) argues that "quantification is significant because it standardises both its object and its subject… The officials who use these statistical and calculative methods are themselves constrained by the calculative apparatus they use" (p. 678). This understanding is particularly relevant to this research, because it explicates how the calculative apparatus that quantifies education constrains teachers as they go about their work. The production of national datasets on education (such as student attendance and student achievement) are possible largely because of the participation of teachers and education department bureaucrats who form a "calculative network" (Miller, 1994, p. 246). This work bridges the gaps between the vastly different schools across the country, and allows schools and individual students to become "comparable".

According to Miller (1994), creating cultures that are sympathetic to calculation is integral to the operation of managerial control. He describes this work of the "calculative self" as the reason for the "ascendency of the single figure" (1994, p.

246) despite its distance from the local conditions it purports to represent. The rise of the calculated single figure in this process allows for what Porter (2012) describes as "thin prescription" or judging people and institutions by a few or "ideally, one number" (p. 595). Thin prescription creates a "trust in numbers" (Porter, 1996) because it requires faith in the procedures of standardisation used to generate the numbers, which are assumed to "contain subjectivity" (Porter, 2012). Porter argues that bureaucrats and politicians "would like [numbers] to seem as boring and technical as possible" because "boringness means there are no shady manipulations, no basis for controversy, or at least that nobody recognises it. Technical routines shut down dissent" (Porter, 2012, p. 595). Larner (2003) also cautions that because the everyday, seemingly mundane and often invisible practices (such as benchmarks, audits and performance indicators) involving data are seen as "neutral tools", they frequently go unchallenged (p. 511). Larner argues that the failure to engage with these enacted and embodied experiences contribute to the seeming impossibility of challenging quantification. Latour (1999) describes the scientific desire to accept that which is produced technically without examination as black-boxing:

> Black-boxing is the way scientific and technical work is made invisible by its own success. When a machine runs efficiently, when a matter of fact is settled, one need focus only on its inputs and outputs and not on its internal complexity. Thus, paradoxically, the more science and technology succeed, the more opaque and obscure they become (p. 304).

Rose (2003) has also argued that there is power in "the single figure" because it "render[s] invisible and hence incontestable – the complex array of judgments and decisions that go into a measurement, a scale, a number. The apparent facticity of the figure obscures the complex technical work that is required to produce objectivity" (p. 208). A significant contribution of this research is to delve inside the "black box" of number production in schools to make this technical work visible.

An effect of black-boxing is that the perceived objectivity of numbers produced is difficult to contest (Sætnan, et al., 2010). Harraway's (1988) description of scientific claims as using "the god trick" – the illusion of speaking authoritatively as an all-seeing entity, and coming simultaneously from no-where and everywhere using a "disembodied scientific objectivity" (p. 576) is useful. The work of sociologists such as Hacking, Porter and Desrosières and the like has built a picture of the regime of

truth that discursively constructs numbers as implicitly objective; rather than understanding the act of counting as a "specific form of social viewing (Sætnan, et al., 2010, p. 1). Porter (1996) argues that this appeals to politicians and bureaucrats because it provides a seemingly unbiased mechanism for justifying political decisions.

3.2.5 The "average man", norms and governance by numbers

In undertaking a history of quantification, Hacking (1990) describes early statistician Adolphe Quetelet as having had a "fondness of numbers, and happy to jump to conclusions" (p. 106). Quetelet was one of the first philosophers and statisticians who used quantitative data to construct "the average man"; and thus also the ability to generate diagnoses according to deviance from the average (Hacking, 1990, pp. 107-108). Here, Quetelet was not referring to individuals, but to the construction of populations in which knowledge about the "average" would provide opportunities to "preserve or alter the average qualities" of a population (Hacking, 1990, p. 108). In his book *Discipline and Punish* (1975/1995), Foucault built up a picture of modern "disciplinary societies", describing three configurations of power and knowledge that operate by applying processes of control: examination, observation and normalising judgement. In education, the use of statistics produces knowledge that constitutes both teachers and students as manageable subjects who can be compared and judged against statistical norms and averages.

The notion of numbers as socially produced objects that are technologies of governance does not in itself mean that they are "'politicised' in the sense of being corrupt" (Alonso & Starr, 1987, p. 3). As described above, numbers are politicised in that they are socially produced and used for particular purposes. As Rose (1991) describes, the paradox is that although they are inherently politicised, numbers "promise a 'de-politicisation'… redrawing the boundaries between politics and objectivity by purporting to act as automatic technical mechanisms for making judgements, prioritising problems and allocating scarce resources" (p. 674). Quantification is made possible through the establishment of standardised categories and procedures, which purport to eliminate subjectivity and therefore enable objective judgements to be made. Porter (1996) describes that:

> In a political culture that idealises the rule of law, it seems bad policy to rely
> on mere judgment, however seasoned… The appeal of numbers is especially

compelling to bureaucratic officials who lack the mandate of a popular election, or divine right. Arbitrariness and bias are the most usual grounds upon which such officials are criticised. A decision made by the numbers (or by explicit rules of some other sort) has at least the appearance of being fair and impersonal. Scientific objectivity thus provides an answer to a moral demand for impartiality and fairness. Quantification is a way of making decisions without seeming to decide. Objectivity lends authority to officials who have very little of their own (p. 7).

"Governing by numbers" (Rose, 1991) has thus become a ubiquitous, global form of management that affords legitimacy to political and bureaucratic decision-making. Instead of relying on decisions made by people, which inevitably appear subjective; decisions based on statistics provide a veneer of objectivity (Porter, 1996), even though they are socially produced constructs. As well as bringing knowledge and power to political and bureaucratic decision-makers, statistics also alter subjectivities for frontline workers such as nurses, teachers and so on.

3.2.6 Statistics, performativity and subjectivity

Statistics and numbers provide a way of generalising beyond the individual whilst simultaneously working as an "individualising technique" (Hammer, 2011, p. 80) that operates as a surveillance apparatus capable of closely scrutinising individuals (teachers, students, principals and the like), providing a link between relations of power and knowledge. As teachers and other front line workers define themselves and their work in terms of predetermined categories used for quantitative measurement, norms become "the gentlest and yet most pervasive forms of power in modern democracy" (Porter, 1993, p. 96). Rose's (1990) notion of "technologies of the soul" encapsulates the idea that subjectivities such as these are established in ways that "enable strategies of power to infiltrate the interstices of the human soul" (p. 8). As people compare and judge themselves to agreed standards and statistical norms, they are made governable, in what Foucault (1991) described as governmentality.

Describing subjectification as a way of people "turning themselves into subjects" (Foucault, 1975/1995), Foucault was concerned with exploring how people come to behave in particular ways, therefore becoming complicit in their own governance. Others, such as Bevan and Hood (2006), Ball (2003) and Porter (2012) have

described the performative effects of using numbers in accountability systems, as individuals seek to meet normative demands imposed by statistical accountability systems. These changed subjectivities have led to practices such as "gaming" as individuals seek statistical evidence of improvement. James Gibson's (1986) historical account of the Vietnam War describes how the use of numbers led to these kinds of unintended practices as U.S. commanders set in place systems to ensure a "cost effective victory" (p. 80). Systems of body counts were established using ratios of U.S. soldiers: Vietnamese soldiers; with targets used to evaluate the performance of military officers:

> Producing a high body count was crucial for promotion in the office corps. Many high-level officers established "production quotas" for their units, and systems of "debit and credit" to calculate exactly how efficiently subordinate units and middle-management personnel performed (p. 112).

Although a range of different mathematical formulae were used, there was a common commitment to rational evaluation using numbers, for example by using "kill ratios" (p. 112) in which "killing ten enemy soldiers for every U.S. soldier killed… [led to] rewards and punishments [that] were distributed around that norm" (p. 113). Gaming in this context was particularly tragic, as highlighted by this account by a sergeant, Stan Goff, quoted by Gibson:

> Night movement, that was a suicidal patrol…. The purpose of it was for you to walk up on Charlie and for him to hit you, and then for our hardware to wipe them out. We were used as scapegoats to find out where they were. That was all we were—bait.… Actually, they'd love for us to run into a regiment which would just wipe us out. Then they could plaster the regiment and they'd have a big body count. The general gets another damn medal. He gets promoted (p. 111).

According to Gibson, the desire to produce a high enemy body count using purportedly objective statistics had "no referent in reality" (p. 162). Instead, he writes that "in February 1968, at the very moment when war-managers saw American victory as inevitable, the Vietcong emerged in full power" (p. 162). When averages, norms and numeric goals are key tools of governance, there will almost inevitably be vigorous attempts to drive numbers higher (Porter, 2012).

3.2.7 Summary

The purpose of the sociology of numbers literature is not to debate "for or against numbers" (Hovland, 2011, p. 21), but rather to unravel their social construction and relationship to organisation and power. As the literature presented in this section indicates, the rise in the use of numbers as a form of governance over the past century is based on underlying beliefs about the objectivity and rationality of abstracted statistics. The production of these numbers requires the work of applying standardised conventions, and makes way for the use of numbers as a technology of governance. In the words of management guru Tom Peters (1998), "what gets measured gets done" (p. 284). As the literature from the sociology of numbers indicates, from the 1830s onwards, "cascades of numbers" began to infiltrate so many aspects of life that they have now become "recognisable as a historic movement" (Porter, 2012, p. 587). As Desrosières (1998) and Kullenberg (2011) have explained, the etymology of the word demonstrates that "statistics are closely connected to the construction of the state" (Desrosières, 1998, p. 8). While the history of statistics demonstrates that numbers have been used as a technology of government since their inception, there is a growing body of literature (e.g., Lingard, 2011; Power, 1997) that demonstrates how central numbers are to the operation of neoliberal governance. For example, Ozga (2009) describes that "the shift to governance is, in fact, heavily dependent on knowledge and information, which play a pivotal role both in the pervasiveness of governance and in allowing the development of its dispersed, distributed and disaggregated form" (p. 150).

To demonstrate how these significant changes have been experienced in Australian education policy and governance, a history of the quantification of education in Australia follows.

3.3   THE DATAFICATION OF EDUCATION

3.3.1 Introduction: History of comparison and numbers in education

Before locating the Australian education system within the contemporary global policy milieu, it is worth noting that numbers and statistics have not always been used in the same way in education. The sociological history of statistics presented above indicates that how and why statistics are produced and used depends largely on their purpose (Landahl & Landahl, 2009). In this section, I therefore begin with a

brief history of comparison, evaluation and evidence-based decision making in education, before moving to describe the history of quantification in education, both in Australia and internationally.

3.3.2 From narrative to numbers: Early twentieth century evaluations of education

Although evidence-based decision-making using numerical data may be a ubiquitous part of many education systems across the world, the explosion of practices in which numbers are used to explain education is a relatively recent phenomenon that began in the mid-nineteenth century alongside the rise of modern schools and the commencement of World Fairs and Expositions (Lawn, 2009). In 1893, in describing the education exhibits at a World Exposition in Colombia, author Robert Bancroft declared that:

> Here may be compared the [education] systems of countries many thousands of miles apart… all grouped within a few thousand yards of space, and yet presenting a clearer illustration of methods, appliances and results than could be obtained from an extended tour of the world (Bancroft, cited in Sobe, 2009, p. 41)

These early descriptions of data were precursors to the current neoliberal discourses that are based on similar assumptions about the usefulness of comparative international al data (such as PISA). These early accounts were frequently rich narratives, (often accompanied by photographs and student work samples) that "gave the reader the distinct impression that [a particular system, frequently the American school system] was the best" although there were no so-called objective numerical league tables to quantify these statements (Landahl & Landahl, 2009, p. 60). Highly concrete details of teacher practice and student learning were often included as well as descriptions of school resourcing and architecture. A search of the National Library of Australia's digitised newspapers online reveals that international comparisons of education systems have moved from narrative description to quantifiable judgements, with significant changes in reporting from around the 1980s, coinciding with the rise of neoliberal governments. A Trove search for "education, 'student achievement', comparison" (across each decade from the late 1800s onwards) illuminates the difference in how comparisons between education systems were made, and how these became quantified in the latter part of the

twentieth century. For example, an editorial published in Brisbane's *Telegraph* in 1918 begins with a general description of the state of education, much like we might read in contemporary media reports, although it included the insight that:

> To some extent, that statement [that the current education system needs improvement] will always be the truth. The world will never hear the last word about education, because in the nature of it and in the circumstances and conditions which surrounded it there can be no last word. An absence of satisfaction with what has been, or is being achieved is a sure sign of progressive improvement (Education, 1918, p. 6).

The article goes on to describe the complexities of evaluating education systems by focussing on the comparative international judgements that had positioned Germany as the best education system in the world prior to World War I. It argued that both Germany's technically superior education system, and Russia's poor education system failed to produce citizens capable of either halting the rise of Nazism and communism, or of winning the war. The article concluded that, "the lesson of the war is that education is only protective in the full sense to a nation when it is associated with character as well as with mind" (p. 6). The only quantified data in the article are in reference to the approximately "seventy or eighty per cent" of the Russian population who were deemed illiterate. A newspaper article published in Tweed Heads in 1920 entitled "Germany's great achievement" provides another example of how early judgements and comparisons of education were frequently rich descriptions of schooling, rather than quantitative comparisons. The article described a "wonderful" education system in which 14-year-old boys would begin their first year at electrical engineering schools with a tour of inspection before working on a book of blue prints of mechanical drawings, and finally producing a metal product using a range of metalwork tools.

Comparative judgements continued to be made over the next five decades, using similarly narrative accounts. For example, in 1929 *The Telegraph* published in South Australia described the "backwardness of Australia" compared to Europe; and in 1950 the *Newcastle Morning Herald* published an article entitled "The essence of education" in which it outlined an argument for what makes a great education system. It concluded that "not until education inspires the mind with a sense of its own greatness and kindles unquenchable thirst for knowledge that will continuously

enrich and ennoble the whole personality will it achieve its fundamental objective"
(p. 2). In contemporary times, these would likely be considered to be subjective
accounts that would be inappropriate without substantiating quantitative data.

The rise of quantification in the 1980s was evident in media reports, as global
momentum grew for wider neoliberal agendas, including the promotion of
marketised solutions to education systems that were purportedly in crisis (Lipman,
2016, p. 21). This shift was apparent in Australian news reports, for example a 1983
article in The Canberra Times reported on the state of U.S. education by citing the
report produced by President Ronald Reagan's National Commission on Excellence
in Education, "A Nation at Risk" (1983). The article described that a so-called "tide
of mediocrity" was evidenced by quantitative data including international
comparisons of student achievement, in which "on 19 academic tests American
students were never first or second and, in comparison with other industrialised
nations, were last seven times" (p. 2). The article went on to describe that the
"average achievement of high school students on most standardised tests is now
lower than 26 years ago when the U.S.S.R. launched the first spacecraft, Sputnik,
prompting a boom in American science education" (p. 2). By the late 1980s, the
effects of the neoliberal reforms instituted by the Reagan administration in the U.S.
were being reported in Australia. For example, in 1988, The Canberra Times
published an article (Barber, 1988) that reported on neoliberal reforms in the U.S.
including the push towards increased parental choice, performance based pay for
teachers, and increased accountability mechanisms for managing schools. Large-
scale quantification has been fundamental to the operation of many of these
neoconservative and neoliberal reforms, and is intimately linked to accountability
and control. The rise of neoliberal reforms that have been closely tied to the
quantification of education are described in the latter half of this chapter.

3.3.3 Quantification of education using census data

Whilst rich narrative description and photographic accounts had previously been
considered useful for enabling comparison, states began to rely on data collection
during the rise of modernity and urbanisation (Grosvenor & Roberts, 2009). In the
late 1880s the first education censuses were undertaken for a variety of purposes. For
example, in the U.K. early census data collections were undertaken by School
Attendance Officers to identify "all imbeciles, idiots, epileptics or feeble-minded

among children of school age" in order to ascertain school accommodation requirements (Grosvenor & Roberts, 2009, p. 82). The purpose of this numerical data was to provide an account of the funding requirements and depended on *a priori* categorisation decisions about who and what to count, and how to constitute populations. While categories such as "imbeciles" and "idiots" are unpalatable in modern times, they demonstrate that categories are socially constructed, and allow for measurement of populations for specific purposes.

In Australia, comparable national education data was first collected in the early censuses of the Australian colonies in 1881, 1891 and 1911 (Wright, 2005). The first national census measured citizens' level of schooling, asking them to indicate if they were "receiving education" (ABS, 2001) at a university, school, home-school or private school. The census also attempted to quantify citizens' education level by asking them to indicate if they could read and write. The instruction on the census card was:

> Line 13. – Write CR for cannot read, R for read only, and RW for read and write. If not able to read English, but able to read a foreign language write RF and if not able to read and write English but able to read and write a foreign language write RWF (ABS, 2001, p. 426).

Comparing this question with contemporary quantification of literacy practices is illuminating. Current views about what constitutes literacy and how it can be measured are enmeshed in purportedly objective standardised tests of literacy (Gorur, 2015). Early education statistics collected via the census were recorded according to various subpopulation categories such as location, gender and race. However, what is not made clear in the statistician's report is how these categories were created, or by whom. The categories, which included "full-blooded aboriginal [sic]", "Chinese half-caste", "'unmixed' marriages", "deafmutism" (ABS, 1911), demonstrate how entwined *a priori* categorisation decisions allow measurement to occur, but mask the "magic" (Bowker & Starr, 1999, p. 9) that makes measurement possible. This early measurement of the literacy of a nation, collected by asking individuals to provide a subjective indication of their ability to read and/or write, is at odds with current practices that foreground technical measurement and objectivity. The 1911 census also asked citizens to indicate their highest level of educational attainment, with the census card asking:

If the person to whom the card relates has obtained a University degree, state the degree, and give the name of the University and country in which it was obtained (1911, p. 166)

This early attempt to measure education was withdrawn, with the statistician's report indicating that the statistics were unable to be published because they lacked validity and reliability:

Not only were there many cases in which known holders of degrees had failed to furnish the desired information, apparently through failure to carefully read the instructions, but there were many cases in which existing and non-existent degrees of existing and non-existent Universities were recorded as possessed by persons whose acquaintance with a University must have been a negligible quantity (1911, p. 166)

Thus, once the census cards were collected, they were not processed because "the tabulation of such data would not only be labour wasted, but would actually be misleading" (1911, p. 166). Furthermore, the statistician's report found that the other part of the education question that asked people to indicate if they could read or write was unhelpful and should be removed from the census schedule given that "with the enforcement of compulsory education the number of cases in which persons reach mature age unable to read is necessarily very small and relatively insignificant" (p. 167). This view about the need to quantify the basic literacy skills of a nation is interesting given the current focus on increasing data collection globally (see Section 3.5 below).

It was more than five decades until Australia again attempted to collect data on the highest level of education completed in the 1966 census (ABS, 2001). However, the difficulty of measuring this social construct again became clear, as the population once again failed to accurately comply with census instructions. The instruction in 1966 was:

For each person state the highest level of schooling completed.
If passed at Leaving or Matriculation level, write 'M'.
If passed at Intermediate level, write 'J'.
If attended secondary school (e.g. high, technical, non-government) but passed no examinations at Intermediate level or above, write 'H'.
If attended or completed infants' or primary school or passed final primary examinations such as Qualifying Certificate (Q.C.) or Merit, write 'P'.

If never attended school, write 'N'".

This question was largely unsuccessful because the past tense wording of attendance (e.g., "if attended secondary school") resulted in people who were currently attending secondary school being coded as only having attended primary school, although the intention had been that they would be coded with "H" (attended secondary school but no examinations passed). The issue of misleading wording was not resolved until the 1976 census when a category of "still at school" was added to the question (ABS, 2001).

3.3.4 Quantification of education through examination

Alongside attempts to quantify education using the national census, examinations and assessments had been occurring in Queensland since before federation. The history of secondary schooling examination data in Queensland also highlights the socially constructed nature of both assessment and statistics. Not long after the first secondary schools were established in Queensland in the 1860s, examinations were controlled by universities, since they were primarily conducted for the purposes of university entrance. The link between assessment and curriculum was highlighted over a number of decades, as teachers, principals and inspectors sought to reduce the influence of universities in dictating school curricula. As early as 1910, a school inspector, Reginald Roe (1910), wrote that:

> When scholarships and prizes are offered for competition, some will always
> overwork themselves in the effort to achieve success; you cannot prevent
> men from running their hardest in a race, but the evils of over-training can be
> reduced by lessening the severity of the terms of the competition, and I
> believe that the Queensland University would render good service to our
> secondary schools by reducing the quantity of work prescribed in its senior
> and junior public examinations as compared with that demanded in New
> South Wales (p. 5).

Debates around the appropriateness of universities setting junior and senior public examinations were ongoing, with numerous principals writing editorials in newspapers in the 1930s suggesting that a situation in which almost half of all students did not pass English examinations was unworkable (e.g., Rowland, 1932; Waddle, 1932). This debate continued until responsibility for junior public examinations were transferred to the Department of Education in 1959 (Clarke,

1987). However, ongoing discussions around the appropriateness of examinations continued until the 1970s when external examinations were replaced in Queensland by a system of externally-moderated, school-based assessment (Maxwell & Cumming, 2011).

3.3.5 Control and funding of education in Australia

The large-scale quantification of education at the national level has largely been enabled by a sustained push for federal involvement in education policy over the past three decades. The Australian Commonwealth was instituted in 1901 by a British act of parliament that established an Australian Constitution, and set out intergovernmental relations between the new Commonwealth Government, and state and territorial governments (Cumming & Mawdsley, 2012, p. 7). The Constitution does not make specific reference to education (except in reference to the provision of financial benefits to students (s.51.xxiiiA) which was added in the 1940s to allow the federal government to create a social security system). Although the Commonwealth has no power to legislate outside its constitutional powers, nor to allocate money beyond "the purposes of the Commonwealth" (s. 81), it has a greater ability to raise revenue than the states and territories. Because the structure of taxation and revenue raising has changed since federation, Australia has a "high level of vertical fiscal imbalance" (Twomey, 2014, p. 2) in which the Commonwealth raises more revenue than needed to fund its responsibilities; and the states and territories raise far less than needed to fund their responsibilities, which include expensive services such as health and education. However, the Constitution does provide the Commonwealth with the power to "grant financial assistance to any state on such terms and conditions as the Parliament thinks fit" (s. 96). Because the Commonwealth also has constitutional authority to place conditions on such funding, the vertical fiscal imbalance leaves the states and territories in an inherently weak bargaining position (Cummings & Mawdsley, 2012). This complex arrangement has created a so-called "blame game" (Twomey, 2014, p. 2) in which both tiers of government blame each other for perceived failures in service provision in key areas including education. These federal-state relations have had a significant impact on the quantification of education in Australia, because federal assistance is increasingly tied to calculative work and the achievement of quantified targets.

3.3.6 National efforts to quantify literacy and numeracy: Federal-state cooperation

In 1975 and 1980, Australia first attempted to use tests to quantify literacy and numeracy achievement at the national level via two sample surveys conducted by ACER. The first national attempt to quantify national literacy and numeracy performance in 1975 had been commissioned by a Commonwealth House of Representatives Select Committee on Specific Learning Difficulties, and attempted to measure the percentage of students aged 10 and fourteen who were performing below minimum competency standards in literacy and numeracy (Keeves & Bourke, 1976). The committee argued that although significant numbers of students had not reached minimum levels of proficiency, data from one survey could not indicate changes in student performance (McGaw, 1994). In 1980, the survey was recommissioned by the Australian Education Council[6]. Thus in 1980, 83% of 14 year-olds (n=5,103) and 71% of 10 year-olds (n=6,246) were considered to have passed the test, with no significant areas of decline over the five-year period (Rothman, 2002). The official report concluded that "while some will wish to emphasise the high proportions of students who could do most tasks, others will be concerned about the educational and social consequences for the students who were unable to do some tasks" (p. 61). In its introductory sections, the report noted that a growing interest in understanding student achievement was linked to international trends, for example citing "A Nation at Risk" (U.S. National Commission for Excellence in Education, 1983).

The period from the 1970s to the mid-1990s was marked by ongoing debates around education that led to further attempts to quantify literacy and numeracy, made possible through the establishment of performance standards and associated testing. In1993, Professor Ken Wiltshire was commissioned to undertake a curriculum review in Queensland. The Review of the Queensland School Curriculum (1994) was instituted in response to ongoing concerns about literacy levels (Clarke, 1987), and

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[6] By 1993, the Australian Education Council was merged with two other existing councils (Council of Ministers of Vocational Education, Employment and Training; and the Youth Ministers Council) to form the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA). The Council of Australian Governments formed MCEETYA to coordinate the policy work of ministerial councils across related portfolios. MCEETYA's key functions include coordinating strategic policy at the national level; negotiating national agreements in key areas such as national reporting; sharing information and resources to achieve agreed objectives, and facilitating communication between national structures (MCEETYA, 2005)

led to the creation of a Year 6 test, and performance standards across Grades 1-8 (Finger, 1999). Wiltshire is now an Emeritus Professor of public administration at the University of Queensland, and is known for his neoconservative views on curriculum, for example bemoaning "new age teaching methods" (Auerbach & McDougall, 2015) and extolling conservative politics (e.g., Wiltshire, 2010, 2013). Around the same time, the federal government convened the Quality of Education Review Committee (Karmel, 1985) to investigate (among other things) how to raise literacy and numeracy standards. The committee (Karmel, 1985) argued strongly that the focus of education funding should move from inputs to outcomes, in order to ensure "value for money" (p. 2). To do so, the report developed a case for a move towards large-scale, national testing, particularly in the areas of literacy and numeracy. It described that because there were "no established mechanisms for systemic recording of output information" (p. 25), that both federal and state governments lacked information that would demonstrate how funds were allocated, and with what effect. The report noted:

> In public discussion, literacy and numeracy standards have come to be the surrogate measures of the effectiveness of schooling. The question of basic skill standards has for a number of years been debated with great heat but little light, particularly as Australia does not have a tradition of standardised performance testing of students. Extensive media coverage has been given to allegations of falling standards and to the dissatisfaction of employers with the literacy and numeracy levels of young job seekers, including those with tertiary qualifications. During its deliberations, and particularly in its consultations with labour market authorities and interests, the Committee sought data to support these allegations. Anecdotal evidence is plentiful but there seems to be less quantitative information gathered from within the labour market than is available from schools and school systems (p. 27).

It is unsurprising then, that a key recommendation of the committee was for the Commonwealth to "establish priorities and direct funds to their achievement [and] it should measure the success of its activities.... Some testing of student achievement in some areas is therefore necessary" (p. 193). It is interesting to reflect on the fact that the discursive regime of truth in which literacy and numeracy standards and statistics were positioned as the "surrogate measures" of schooling had emerged more than a decade prior to the introduction of national literacy and numeracy testing.

Hobart Declaration

In 1989, a "historic agreement" was struck between the Commonwealth and State Education Ministers (Curriculum Council, 1990, p. 4) that included agreement to a set of national goals for schooling. The so-called "Hobart Declaration on Schooling" (Australian Education Council, 1989) agreement was the first cooperative declaration of its kind and included commitment to the annual national report on schooling, as well as the establishment of mechanisms for further collaboration in areas such as the development of a national curriculum. A process for mapping minimum standards in literacy was established by the Hobart Declaration with all Ministers of Education agreeing "to a plan to map appropriate knowledge and skills for literacy" (Australian Education Council, 1989). The inaugural report (Australian Education Council, 1989) described that if Australia was to make progress towards achieving any of its goals, "relevant statistical data, where it is nationally comparable" and approved "national sample studies" would be used, and "of particular national significance… the national collaborative work in curriculum and assessment" (p. 5).

Although the Hobart Declaration had established agreement to establish literacy goals and map achievement (in the areas of listening, speaking, reading and writing), these goals were further developed throughout the 1990s. The discontinuation of the 1975 and 1980 ACER assessments because no decline in student performance had been found (McGaw, 1994) was certainly not the end of efforts to quantify education at the national level. In 1990, the Australian Education Council (AEC) instituted the Australasian Cooperative Assessment Program (Beare & Boyd, 1993) as a means of establishing a common national approach to measuring and reporting student achievement. In 1990, the AEC agreed to develop a common reporting framework for English and Mathematics that set out levels of achievement, with subsequent curriculum areas to develop similar subject profiles over the next decade. This program relied on a cooperative approach, as well as cooperative funding between the federal government, the New Zealand government and all Australian state governments (Australian Education Council, 1990).

In 1991, the federal government released the "Australian Language and Literacy Policy", which supported the work of subject profile development as a means of measuring student literacy. Although the policy noted that, "uniform standardised national testing which would not respond to a variety of literacy achievements will

not be an outcome" (DEET, 1991, p. 40), it stated that "there is a need for national reporting on levels of literacy at least at years 6 and 9" (p. 40).

In Queensland, the Year 6 test was administered to 50,000 students across the state, from 1995 to 1997, with the goal of assessing literacy and numeracy attainment. ACER won a $900,000 contract to develop, administer, score and produce reports for the test (Rout, 1995). The Year 6 test was superseded in 1998, making way for the federally initiated years 3, 5 and 7 testing (Grimbeek & Nisbet, 2006). Queensland also undertook a number of sample survey assessments of Year 3, 5, 7 and 9 students in mathematics and literacy during the 1990s (Ainley, 2002).

Establishment of the Council of Australian Governments (COAG)

In 1992, a further step was taken towards formalising state/territory and federal cooperation, with the establishment of the Council of Australian Governments (COAG). Chaired by the Prime Minister, COAG has been central to the operation of cooperative federalism since its inception. For instance, in 1993, COAG commissioned a review of government-funded education, which included schools, vocational education and training as well as services in health, law and community services (Steering Committee for the Review of Commonwealth/State Service Commission, 1995). (Religious, private and independent sectors and schools were not included within the scope of the review). The review used the National Goals for Schooling in Australia to examine efficiency (with the indicator being cost per student) and effectiveness in terms of learning outcomes; social and other; and equity. Because each state and territory was undertaking its own standardised testing regime when the review was conducted, it was difficult for the report to point towards quantified national trends or differences. The testing regimes that operated in each state are shown in Table 3.1.

Table 3.1 Standard Tests of Student Achievement in Australian States and Territories, 1995

State/Territory	Test	Grades Tested
Australian Capital Territory	No standard testing of outcomes	No standardised testing of outcomes
New South Wales	Basic Skills Test (BST)	Years 3, 6 (1989-1994) Years 3, 5 (1994-1995)
Northern Territory	Multi-level Assessment	Years 5, 7 (1990-1993)

	Program (MAP)	
Queensland	Assessment of Performance Program (APP)	Years 5, 7, 9 (1987-1994)
South Australia	Basic Skills Test (BST)	Years 3, 5 (1995)
Tasmania	10R, 10N, 14R, 14N tests	10 and 14 year-olds (1976-1993)
Western Australia	Monitoring Standards in Education (MSE)	Years 3, 7, 10 (1990-1995)

(Steering Committee for the Review of Commonwealth/State Service Commission, 1995, p. 208)

The commission recommended a national testing regime, and commissioned ACER "to identify how comparisons between existing statewide testing programs could be established" (p. 200). The commission supported ACER's recommendation that common test items be embedded in all state and territory tests (p. 201). The report also indicated that disaggregated data from across a number of states showed that Aboriginal and Torres Strait Islander students, as well as students from low socio-economic neighbourhoods were achieving below other students in every subject and every year level.

The rise of national goals, standards and benchmarks

It was another sixteen years after ACER's first national testing program was conducted before Australia would again attempt to quantify literacy (and numeracy). The National School English Literacy Survey (Masters & Forster, 1997) was carried out in 1996 as means of providing "a reliable national picture of the English literacy performance of Australian school students in Years 3 and 5" (Kemp, 1997, p. 2). Once again, the tests utilised sample testing of students (n= 7,454) across five domains: writing (including spelling), reading, viewing, speaking, and listening (Masters & Forster, 1997). The report indicated that "the top 10% of students at both Year 3 and Year 5 are working about five years ahead of the bottom 10% of students (Masters & Forster, 1997, p. v). According to the Commonwealth Minister for Schools, Vocational Education and Training, Dr. David Kemp (1997, p. 2), the testing process was important for informing the national "benchmarks process". In analysis reminiscent of the testing undertaken sixteen years earlier, the results indicated that some students had achieved high standards of literacy, while others

had failed to meet minimum standards according to the draft benchmarks. The benchmarks had been developed by "literacy specialists" under the guidance of a Benchmarking Taskforce that bought together federal, state and territory education departments as well as representatives from the National Catholic Education Commission and the National Council of Independent Schools' Association and the Curriculum Corporation (Masters, 1997).

In 1996, MCEETYA updated the National Goals for Schooling to include a new goal for literacy, and to develop a national framework for reporting achievements in literacy and numeracy. The Ministers had agreed to establishing the Benchmarking Taskforce, tasking them with the development of draft national benchmarks for Years 3, 5, 7 and 9. By 1997, a national literacy and numeracy goal was agreed to by all state, territory and Commonwealth Education Ministers. It stated that "every child leaving primary school should be numerate, and be able to read, write and spell at an appropriate level" (Kemp, 1997, p. 1). In addition, there was agreement that a national plan would be developed in which "all children's achievements in literacy and numeracy [would] be measured against national benchmarks" (Kemp, 1997, p. 1). MCEETYA also convened a "Taskforce on School Statistics" which investigated issues such as the development of nationally consistent classification systems. For example, the taskforce agreed to adopt the Australian Bureau of Statistics' definitions of "metropolitan" and "non-metropolitan" for reporting geographic location (Australian Education Council, 1996, p. 56).

In order to meet the new national goal, at the March 1997 MCEETYA meeting, a National Literacy and Numeracy Plan was endorsed. All states and territories agreed to:

- comprehensive assessment of all students by teachers as early as possible in the first years of schooling, with the purpose of adequately addressing their literacy and numeracy needs and identifying those students at risk of not making adequate progress;
- intervention as early as possible to address the needs of all students identified as at risk;
- development of national benchmarks in literacy and numeracy;
- assessment of students against the Year 3 benchmark to be numerate and to be able to read, write and spell from 1998 onwards (and against the Year 5 benchmark as soon as possible), using rigorous state-based assessment procedures,

aiming for all states to move to assessing every student rather than a sample; speaking, listening and viewing to be incorporated as soon as practical; and

- progress towards national reporting by systems and school authorities on student achievements in numeracy, reading, writing and spelling against the Year 3 and Year 5 benchmarks, with reporting in 1999 on 1998 results, using data comparable by state/territory (MCEETYA, 1995, p. 57).

The focus of the goals and agreed actions was therefore clearly tied to both the development of benchmarks, as well as the production of quantified data on student literacy and numeracy for the purposes of allowing comparison.

In 1998, Australia's first literacy policy, "Literacy for All: The Challenge for Australian Schools" (Department of Employment, Education, Training and Youth Affairs, 1998) was released, formalising "a commitment to testing for diagnosis and learning improvement" and aligning discourses of testing and equity (Klenowski & Wyatt-Smith, 2012, p. 67). It did so by arguing that testing would provide a mechanism for identifying students at risk of not making satisfactory progress, as well as monitoring and tracking student literacy learning over time. The national plan, supported by all Australian governments, further cemented cooperative federalism with a focus on student literacy and numeracy, which would be measured under the national benchmarks for students in Years 3, 5, 7 and 9 that were being developed by the Benchmarking Taskforce.

The national goals were affirmed in 1999 when the Education Ministers endorsed a set of National Goals for Schooling in the Twenty-First Century, under the so-called "Adelaide Declaration" (Australian Education Council, 1999) that included the following sub-goals:

- continuing to develop curriculum and related systems of assessment, accreditation and credentialling that promote quality and are nationally recognised and valued.
- increasing public confidence in school education through explicit and defensible standards that guide improvement in students' levels of educational achievement and through which the effectiveness, efficiency and equity of schooling can be measured and evaluated (Australian Education Council, 1999).

Here the push towards standardised national assessment and curriculum, with explicit national standards of achievement is clear. The move to establish systems of measurement and evaluation was now a national priority, enshrined in the national goals for schooling. Rather than fashioning change through federal policy, significant national policy direction was enabled and strengthened through continued cooperative federal-state relations.

From 1999, nationally comparable data was reported against national benchmarks in the National Reports on Schooling in Australia (published by the Australian Education Council). In 1999, the report stated that:

> The benchmarks for Years 3, 5 and 7 were developed under the authority of a Benchmarking Taskforce, comprising nominees of State, Territory and Commonwealth Ministers, the National Catholic Education Commission, the National Council of Independent Schools' Associations and Curriculum Corporation. The Corporation was responsible for the development work (Australian Education Council, 1999, Chapter 3, p. 1).

The process of benchmark development was not fully explicated in the report. However, there was discussion amongst educators and academics about the difficulties associated with defining "minimum standards". For instance, Margaret Gill (1998) described her attendance at a federal government forum "for leaders in the academic community" to discuss the new national approach to literacy and benchmarking:

> The forum participants also received a brief account of the preliminary work of the Benchmarking Taskforce. An early draft version of the Benchmarks, yet to be trialled, generated constructive discussion while exposing serious problems. Benchmarks are standards which describe student achievement at a particular year level. They do not constitute a curriculum, such as the Curriculum and Standards Frameworks or the National Profiles. Where the Curriculum and Standards Frameworks or Profiles set out a continuum of learning, a benchmark attempts to nail down certain skills, or "essential elements of literacy" at a particular point in time and to indicate whether, at that point in time, the skills demonstrated meet a "minimum acceptable standard" and are a "satisfactory foundation" for future learning, below which a student would have difficulty making "sufficient progress" at school.

The productive discussion revealed how problematic those words in inverted commas really are. Can one set of benchmarks accommodate cultural difference? How useful can such benchmarks be when divorced from a whole school literacy strategy? Can they avoid the risk of specifying arbitrary grammatical features when divorced from any coherent discursive framework? Do the benchmarks define standards at all? (How, for example, do you measure the difference between a 'developed idea' and a 'clear and developed idea'?) Are benchmarks, in fact, covert and prescriptive curriculum statements? The Taskforce team did indeed have a difficult task ahead of them.

Here, the problems of norms, averages, and classification described in the first half of the chapter become evident. Similarly, the issues raised by Gill are reminiscent of the problems experienced almost a century earlier by Australian census writers as they sought to create workable and measurable categories and definitions of literacy. Although little detail was provided on the process of benchmark development, the 1999 National Report noted that benchmarking for Year 9 or 10 students had been postponed until after the next round of PISA testing. This history draws attention to institutional ethnographic notions of ruling relations, that come into view as global institutions' power is exerted via key texts such as PISA data. In 1998, *Curriculum Perspectives*, the journal of the Australian Curriculum Studies Association, published a collection of papers on benchmarking in which the editorial noted that "educational historians may well look back on the 1990s as the decade in which benchmarking emerged as a major movement in educational planning and discussion" (Christie, 1998, p. 43) with numerous papers in the issue noting that the process of developing literacy and numeracy benchmarks was similarly occurring in the U.S. and U.K. (cf. Shannon & Edmondson, 1998; Leung, 1998). At the time, concerns about benchmarks included that articulating essential skills in curriculum areas was fraught (cf. Christie, 1998; Luke & van Kraayenoord, 1998); that large-scale testing and norming using benchmarks would undermine quality pedagogy and inevitably drive (and narrow) curriculum (cf. Leung, 1998; Willis, 1998); that these changes would have damaging effects on the most vulnerable groups of students (cf. Willis, 1998); and that systems of "payment by results" were a likely consequence of benchmarking (cf. Luke & van Kraayenoord, 1998). These critiques of early attempts of benchmarking are particularly interesting given the subsequent rise of large-scale

normed assessment in Australia, and the use of these statistics as important funding levers. These developments are described below.

As part of the project of developing nationally consistent categories and definitions, a National Education Performance Monitoring Taskforce was established by MCEETYA in 1999. The taskforce commissioned a number of projects to investigate the measurement of socioeconomic status (Marks, McMillan, Jones & Ainley, 2000), geographic location (Jones, 2000), language background, culture and ethnicity (Ainley, Frigo, Marks, McCormack & McMillan, 2000). This work was an extension of the efforts of the MCEETYA Taskforce on School Statistics, that had previously attempted to reach national consensus on classification systems (cf., Jones, 2000). The Performance Monitoring Taskforce was renamed the Performance, Measurement and Reporting Taskforce (PMRT) in 2001.

The following five years were marked by an increase in the development of national benchmarks, and moves towards nationally consistent categories in assessment. In 2001, achievement for Year 7 students against literacy and numeracy benchmarks were reported (Australian Education Council, 2001). By 2003, the first national sample assessment of science literacy was conducted (Wu, 2010b). In 2005, the first national sample assessment in Information and Communication Technology was conducted (for Year 6 and Year 10 students) (Wu, 2010b).

The Schools Assistance Act

In 2004, the conservative federal government enacted the Schools Assistance (Learning Together—Achievement Through Choice and Opportunity) Act. This act set out conditions of financial assistance including that:

> The Minister must not authorise a payment to a state under a provision of
> this Act for government schools for a program year unless the state has made
> an agreement with the Commonwealth that sets out: (p) the commitment
> mentioned in section 13.

 Section 13 required that government schools commit to providing parents/ guardians with biannual school reports that use plain language and "give an accurate and objective assessment of the child's progress and achievement... against national standards if such standards are available". Thus, in order to receive federal funding, each state and territory was required to enter into an agreeement with the

Commonwealth Government. These agreements provided the federal Minister for Education, Employment and Workplace Relations (DEEWR) with the ability to withhold or delay payments if conditions were not met. These agreements applied from 2005 to 2008 and included "commitments", "educational accountabilities" and "further conditions" (Department of Eduation, Employment and Workplace Relations, 2008):

> Some requirements are both a commitment and an educational accountability. For example, the states and territories are required to both commit to report to parents of students in Years 3, 5 and 7 on their children's achievements against the national literacy and numeracy benchmarks (commitment), and to report on these achievements (educational accountability). To meet their commitments, the states and territories are required to demonstrate that best endeavours have been made, whereas, educational accountabilities and further conditions must be met (p. 15).

Thus, while administering standardised literacy and numeracy testing for all students in Years 3, 5 and 7 was a required "educational accountability" in order to acquire federal funding, moves towards public reporting, and providing parents with reports against national benchmarks were still considered a "commitment".

By 2005, the Schools Assistance Act Regulations (2.7, subsection 19 (4) of the Act) required that every child in Years 3, 5, 7 or 9 who attends school must sit a common national test in literacy and numeracy as approved by MCEETYA. The Act and associated regulations were clearly oriented towards creating conditions in which schools must quantify and report student achievement against national benchmarks. The move towards international comparison was enshrined in the Act's 2009 Regulations, which made direct reference to international data, including PISA and TIMMS (e.g., Regulation 3.1 includes measures such as "The percentage of students achieving at or above the standard in the PISA mathematical literacy assessment for 2009 and 2012"). The justification for the reforms was described by federal Minister for Education, Dr. Brendan Nelson as a "parent driven policy" (Nelson, 2004) because it "[laid] down the standards and benchmarks parents want". Smyth (2006) argues that there is "no evidence" of these kinds of parental demands, but rather, that by attributing the reform to parents, it "provided a convenient rhetorical cloak" for an ideologically driven agenda clearly linked to the creation of a visible education

market created through the establishment of mechanisms that would increase competition and promote school choice amongst "discerning consumers" (p. 309).

The "human capital" approach

Around the same time, COAG also set out to establish a National Reform Agenda (NRA) (Productivity Commission, 2006) which situated education within the so-called "human capital stream" of the reform, and which had a focus on maximising the (future) productivity and contribution of individuals to the economy:

> The education and training element seeks to equip more people with the skills needed to increase workforce participation and productivity. Four areas have been targeted: early childhood development; literacy and numeracy; transitions from school to further education or work; and adult learning (2006, p. xxx).

Although the NRA acknowledged a lag time of approximately 25 years before human capital reforms would make significant economic contributions, the two key focus areas were on increasing future workforce participation and improving individual productivity at work. At the time, economic modelling estimated that the reforms could improve national productivity by almost 2%. The NRA established literacy and numeracy targets for children not achieving at or above minimum benchmark standards and children not achieving at a "proficient" standard (Productivity Commission, 2006, p. 240). The Productivity Commission report on the NRA drew on MCEETYA data from Grade 3, 5 and 7 testing as well as PISA data. In 2007, COAG also agreed to what it described as "a major step forward" in that it would shift the focus of education funding from outputs and outcomes rather than inputs, driven by the Commonwealth's incentive payment scheme.

2007 provided a unique political opportunity for change in that Labor governments held power federally, and in all but one state/territory governments across the country. As Cranston, Kimber, Mulford, Reid, & Keating (2010) describe, the "potential for consensus, so often constrained in the past by ideologically different governments, [had] never before been so great" (p. 190). In 2007, the Future of Schooling in Australia reports issued by the Council for the Australian

Federation[7] described the strong commitment of states and territories to increasing quantification through a national census testing regime.

In 2008, the Adelaide Declaration was superseded by the "Melbourne Declaration on Educational Goals for Young Australians". The human capital approach outlined in the NRA continued to underpin the national purpose of education, with the national education goals framed in terms of "the nation's economic prosperity" which would be achieved by preparing students "to compete in the global economy" (MCEETYA, 2008). The preamble sets the tone for this approach, beginning with the statement that:

> In the 21st century Australia's capacity to provide a high quality of life for all will depend on the ability to compete in the global economy on knowledge and innovation.

The Melbourne Declaration included commitments that governments would increase accountability by:

- working… with all school sectors to ensure world-class curriculum and assessment for Australia at national and local levels (p. 15).
- working with all school sectors to ensure that public reporting:
  - focuses on improving performance and student outcomes
  - is both locally and nationally relevant
  - is timely, consistent and comparable (p. 17).

3.3.7 The introduction of national testing and reporting: NAPLAN and *My School*

The development of common reporting scales and benchmarks paved the way for the introduction of a census-style national test of literacy and numeracy. NAPLAN commenced in May 2008, testing all students enrolled in Years 3, 5 and 7 across four key domains of literacy and numeracy: reading, writing, language conventions (encompassing punctuation and grammar) and numeracy. NAPLAN was introduced as part of the federal Labor government's so-called "Education Revolution" (Rudd & Gillard, 2008). The Education Revolution drew on PISA data to justify the need for reform, citing Australia's relative and absolute decline in reading performance

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[7] According to the website of the Council for the Australian Federation, the organisation "was formed to support and enhance our federal system by providing a forum for state and territory leaders in Australia to discuss and resolve important issues independently of the Commonwealth" (https://www.caf.gov.au/)

between 2003 and 2006, and Australia's inequitable education 'system' which was described as a "long tail of underperformance" (p. 16). International data and rankings were thus presented as rationales for the reform (Gorur, 2013, p. 214) extended to policy borrowing as then Education Minister Julia Gillard sought advice directly from the New York education system, despite the fact that "there were literally no historical, curricular, industrial or sociodemographic similarities between New York and Australia" (Luke, 2011, p. 371) and despite the mixed and negative research on similar reforms in New York (e.g., Hursh, 2007). The Education Revolution policy argued that the COAG reform agenda needed to establish "effective transparency and accountability mechanisms in schools that meet the needs of parents, policy makers and the broader community" (p. 5). The enactment of the new national testing regime meant that for the first time schools across the country could be rendered as comparable, and therefore commodifiable (Gorur, 2013).

The operation of cooperative federalism was furthered with the establishment of the National Curriculum Board in 2008, which was given expanded authority in 2009 when it was renamed the Australian Curriculum, Assessment and Reporting Agency (ACARA). ACARA was established under the Australian Curriculum, Assessment and Reporting Authority Act (2008) in December 2008 and became operational at the end of May 2009, with responsibilities for assessment and reporting, as well as the development of a new national curriculum. Part 2 Section 6 (c-e) of the Act tasks ACARA with the responsibility to:

- collect, manage and analyse student assessment data and other data relating to schools and comparative school performance

- facilitate information sharing arrangements between Australian government bodies in relation to the collection, management and analysis of school data

- publish information relating to school education, including information relating to comparative school performance.

As part of its reporting function, ACARA was required to produce an annual NAPLAN report that provides statistical breakdowns of data by state/territory as well as sub-categories such as gender, language background and Indigeneity. ACARA was also tasked with the production of individual student reports that would be released to parents/carers of students who participated in NAPLAN.

One of the early and ongoing concerns around NAPLAN was the reliability and validity of the data (Wu, 2010a). Not only was there criticism around the openness of large-scale testing results to misinterpretation; but also discussions around the risk of over interpretation of results which might be used as a basis for policy decision making (Wu, 2010b). Wu (2010b) has described a lack of "critical statistical evaluation of [large-scale] assessment results" and that "claims and conclusions may be made without sufficient statistical rigour" (p. 24).

In 2008 COAG also agreed to develop a new reporting framework that was aimed at improving transparency and accountability. This agreement resulted in the development of a federal government website, *My School* that would publish NAPLAN results of each school, along with comparisons against national benchmarks, national averages and statistically similar schools[8]. These comparisons were enabled through the development of an Index of Community Socio-Educational Advantage (ICSEA) that uses a range of variables including household income, parental education and employment, remoteness, Indigeneity and other variables (such as one-parent families and families with no internet connection) (ACARA, 2009). *My School* uses ICSEA values to group schools that purportedly serve statistically similar students, with each school having approximately 59 similar schools. Each school across the country was allocated an ICSEA value, using the "combination of variables that have the strongest association with student performance [on NAPLAN]" (ACARA, 2012, p. 2). According to the website (ACARA, 2009), the "like school" comparisons would "enable and encourage comparisons with schools that are statistically similar in terms of factors known to affect test performance" in order to compare "like with like". The rationale for the development of ICSEA was that the publication of data according to educational advantage would ultimately lead to better equity outcomes, by encouraging underperforming schools to "learn lessons from high achieving schools" (Comber & Cormack, 2013, p. 80). The Prime Minister and Deputy Prime Minister of the day also drew links between socio-educational advantage measures and the redistribution of funding (e.g., Gillard, 2010a). It is worth noting that there has been ongoing

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[8] According to ACARA's website, a school's ICSEA value is used to select approximately 59 schools with students with similar socio-educational advantage (http://www.acara.edu.au/_resources/ Guide_to_understanding_2013_ICSEA_values.pdf). *My School* has also used the terms "like schools" and "similar schools".
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debate over the validity and usefulness of ICSEA as a measure of schools (ACARA, 2012, p. 2).

The Intergovernmental Agreement on Federal Financial Relations (COAG, 2009), which described itself as "representing the single most significant shift in Commonwealth-State relations for decades" (p. 1) further cemented cooperative federalism, basing significant federal funding on state and territory achievement of quantified performance measures. The agreement required:

> enhanced public accountability through simpler, standardised and more transparent performance reporting by all jurisdictions, with a focus on the achievement of outcomes, efficient service delivery and timely public reporting (p. 2).

The Intergovernmental Agreement set the stage for a rise in what Ball (1997a) and Kickert (1993) describe as "steering at a distance" in that it established increased accountabilities at the state level through "a combination of a focus on the achievement of outcomes, clearer specification roles and responsibilities, and enhanced performance reporting" (COAG, 2009).

At the same time, the government continued to progress its market-driven agenda of public reporting of student achievement. *My School* went live in January 2010, amidst opposition from teacher unions and educators, but widespread support from the Australian media (Lingard, 2010). Early news reports at the time indicated that the site was popular amongst "frenzied" parents who began using the data to move their children away from "poor performing" schools ("*My School* launch leads to parent frenzy," 2010). These kinds of reports serve as useful examples of how this newly-public data quickly began to bolster marketisation through moralistic and fear driven language (Davies & Bansel, 2007, p. 251).

At the launch of *My School*, then-Deputy Prime Minister Julia Gillard (2010b) said that "*My School* will show how well each school is teaching [the] fundamental life skills", and that it would provide parents with the data needed to make decisions around school choice. Drawing on Nancy Fraser's (1997, 2000) framework around justice, Power and Frandji (2010) have described the publication of results that "valorises" the attempts of some disadvantaged schools as "the new politics of recognition" (p. 386) in ways that naturalise failure in disadvantaged schools.

3.3.8 National Education Agreements

In 2008/9, the Commonwealth also established the National Education Agreement (NEA) through the Schools Assistance Act (2008). This agreement between the Commonwealth and the states and territories again took a human capital approach, with the stated objective of the NEA being that:

> all Australian school students acquire the knowledge and skills to participate
> effectively in society and employment in a globalised economy (p. 1).

The NEA described that this would be achieved through five key outcomes including that:

- Young people are meeting basic literacy and numeracy standards, and overall levels of literacy and numeracy achievements are improving.
- Australian students excel by international standards.
- Schooling promotes social inclusion and reduces the educational disadvantage of children, especially Aboriginal and Torres Strait Islander children.

The agreement therefore relied heavily on moves to classify, measure and quantify basic literacy and numeracy standards at a national level, which would enable comparison with external measurements (such as PISA) and between subpopulations (such as Aboriginal and Torres Strait Islander children). Each of the outcomes included a set of performance indicators that described which quantified data would be used to measure progress against outcomes. An excerpt of outcomes with associated performance indicators is provided in Table 3.2.

Table 3.2 Excerpt from National Education Agreement Outcomes and Performance Indicators

Outcomes	Performance Indicators
Young people are meeting basic literacy and numeracy standards, and overall levels of literacy and numeracy achievement are improving.	Literacy and numeracy achievement of Year 3, 5, 7 and 9 students in national testing.
Schooling promotes the social inclusion and reduces the educational disadvantage of children, especially Indigenous children.	The proportion of Indigenous and low SES children enrolled in and attending school. Literacy and numeracy achievement of Year 3, 5, 7 and 9 Indigenous and low SES students in national testing. The proportion of the 19-year-old Indigenous and low SES population having attained at least a Year 12 Certificate or equivalent or Australia Qualifications Framework (AQF) Certificate II. The proportion of Indigenous students completing Year 10.
Australian students excel by international standards.	The proportion of students in the bottom and top levels of performance in international testing (e.g., Program for International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS)).

(COAG, 2008, p. 8-9)

The NEA described that the performance indicators and associated benchmarks were an essential means of increasing accountability. An associated "Performance Reporting Framework" was devised in which all parties to the agreement agreed to "national and consistent reports on national progress", "national reporting on individual schools to inform parents and carers and for evaluation by governments of school performance" (COAG, 2008a, p. 8). The purpose of the Performance Reporting Framework was described as providing increased accountability to parents and the community, as well as "public accountability in support of COAG outcomes and targets" (p. 7-8). The collection of national, comparable data, to be reported publicly, was therefore fundamental to the new accountability mechanisms enshrined in the NEA.

National Partnerships and "reward funding"

To achieve these outcomes, the agreement included a suite of seven national partnerships that had specific funding agreements, including

- National Partnerships on Literacy and Numeracy.

- National Partnership on Low Socio-Economic Status School Communities.

Australia's ongoing vertical fiscal imbalance created a situation in which the NEA and National Partnerships applied funding criteria to create new accountability mechanisms that relied on national and local quantified data. Between 2008/09 and 2011/12, the National Partnership for Literacy and Numeracy was worth $540 million, with the states and territories committing to a similar contribution. The National Partnership model allocated funding in two components: facilitation and reward funding. The facilitation funding was provided to assist states and territories implement reforms required under the partnership and was "triggered by achievement of implementation milestones" while the reward funding was triggered by the achievement of negotiated targets (cf. COAG, 2008b). The achievement of NAPLAN data was heavily linked to the achievement of mandated targets. Many of the targets in The National Partnership bilateral agreements between the Commonwealth and Queensland governments were NAPLAN indicators, particularly for the Literacy and Numeracy National Partnership. The Queensland agreement specified that performance would be measured against:

- Percentage of students at or above National Minimum Standard (NMS) (Reading[9] and Numeracy) (All students)

- Percentage of students above NMS (Reading and Numeracy) (All students

- Mean scale score (Reading and Numeracy) (All students)

- Students at or above the NMS (Reading and Numeracy (Indigenous students)

Here the importance of how NAPLAN assessments, categories, standards and benchmarks were created over the preceding decade became increasingly important. Essentially, they were directly linked to federal funding. The Literacy and Numeracy reward funding was worth $97,043,390 (scheduled for payment in three installments between 2011 and 2013) (Commonwealth of Australia, 2008). Two

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[9] NAPLAN Reading was used as the proxy for literacy in the NEA (COAG, 2008a, p. 12)

hundred and thirty nine Queensland schools were nominated to participate in the Literacy and Numeracy National Partnership bilateral agreement with 20 schools across each sector (e.g., Catholic schools, public schools and independent schools) selected as a sample to provide local measures. These schools were able to apply to use local measures of reading using one of three tests:

- Progressive Achievement Test – Reading (PAT-R) (developed by ACER)

- Developmental Reading Assessment 2 (developed by Pearson)

- First Steps in Reading (developed by the Department of Education, Western Australia).

According to the agreement, "local targets will, therefore, account for 60% of the total reward funding" (s. 38), making this local data high stakes at both the state and local levels. NAPLAN targets accounted for 40% of reward funding in 2011, increasing to 70% in 2012, making NAPLAN improvement extremely high stakes at the state level. Although the National Partnership agreements were bilaterally negotiated between the Commonwealth Government and states/territories, ACER was contracted to establish if state targets were sufficiently "ambitious". As COAG described, federal funding would be directed at reforms that would reward "measurable and ambitious improvement in literacy and numeracy outcomes" (COAG, 2008c, p. 22). ACER found that Victoria's targets were not ambitious enough, and should be revised, which led to Victoria's failure to achieve their targets (Lingard & Sellar, 2013). Lingard and Sellar's (2013) research into the negotiation of targets reported that one Victorian policy maker suggested that there was no transparency in how agreements were being negotiated. While New South Wales aggregated NAPLAN results, Victoria chose not to do so because aggregated grouping "obfuscate[d] performance rather than render[ing] it transparent" (p. 641). The interviewee noted that:

> It was all secret. There was no transparency around what Victoria was negotiating with the Commonwealth and what other jurisdictions were negotiating. You had no idea of whether what you were putting forward was in any way comparable with anyone else (in Lingard & Sellar, 2013, p. 641).

Queensland had used its 2008 data as a baseline (where Victoria had used 2009 data), and negotiated 16 targets, which it met, with the COAG Reform Council granting

Queensland "straight As". This was largely due to the way in which the agreement was negotiated (for example using low 2008 data as the baseline against which to measure improvement). Victoria only received As on 5 of its 32 targets, which led one policy maker to note that:

> [W]hen we say Queensland got all As and Victoria got mainly Cs, anybody who picked a report up like that would say gee, Queensland is way better than Victoria and Victoria must be terrible and that isn't the case because they're not comparative (Lingard & Sellar, 2013, p. 645).

Alongside a raft of complexities, the use of statistics as a means of allocating funding and creating accountabilities demonstrates Porter's (1996) ethic of "thin prescription" (p. 595) in which institutions (or people) are judged by numbers, with the intention of ensuring transparency, fairness and accountability. However, as Porter argues, a history of quantification reveals that while thin prescription "sometimes works as a screen that protects [them] from the eyes of the curious", it almost inevitably leads to gaming in the form of negotiation and "shady manipulations" (p. 597). As the Commonwealth Grants Commission (2012) noted:

> . … there was variation in the level of ambition of agreed targets across states. For example, Queensland agreed to reform targets for 2010 which were lower than their 2008 baseline. Queensland exceeded all its targets. In comparison, Victoria agreed to arguably more ambitious targets for 2010 and agreed to a 2009 baseline (p. 6).

Given the now high stakes of NAPLAN results, it is unsurprising that states made serious efforts to improve their results over coming years. In the next section, I trace Queensland's response to 2008 NAPLAN data.

3.3.9 Queensland's response to 2008 NAPLAN data: Maximising achievement

The changed federal-state relationships that had been established over the past two decades caused significant change at the state level. Because federal funding was now closely tied to national testing and reporting, it is perhaps unsurprising that it became a significant policy driver at the state level. In Queensland, the first round of NAPLAN testing set off a chain of events, illustrating what Smith (1997) describes as textually-mediated events, sparked by what Lingard and Sellar (2013) describe as "catalyst data". In 2008, Queensland's NAPLAN results were reported as:

- Queensland had a greater proportion of students below the National Minimum Standard (NMS) than the Australian average (for all years and all domains except year 7 numeracy).

- Queensland was ranked second lowest in the country (just ahead of the Northern Territory) in all years and all test domains on the proportion of students at or above the NMS.

- Queensland had more students in the lower two bands and less in the upper two bands for each year level and each test domain (Queensland Government, 2009a).

In response, the Queensland Government commissioned a review, led by Professor Geoff Masters, the Chief Executive Officer of ACER. In January 2009, Masters (2009) issued an interim report, with six recommendations, including that:

> last year's NAPLAN test materials be made available for classroom use by teachers of Year 3, 5 and 7 students early in the new school year. The purpose is to provide students with an opportunity to familiarise themselves with the NAPLAN testing materials and processes… (p. 56).

The state government accepted all recommendations and took immediate action to ensure that Queensland made improvements in the 2009 round of testing that would take place in May. The Department of Education and Training (cf. Masters, 2009, p. 56) developed a policy, "Maximising Achievement Program" which recommended "heightened test awareness" in schools by providing teachers and parents with access to 2008 NAPLAN test materials, instituting a compulsory practice testing regime and making item analysis from 2008 available to teachers. Here we see one example of how the history of quantification of education in Australia over many decades had direct consequences at the translocal level. This policy required teachers from across the state to institute teaching practices aimed squarely at improving students' NAPLAN results. In the departmental annual report (2009) it was noted that, "more than 158,000 students sat the practice tests before 20 March in order to be better prepared for the 2009 NAPLAN tests held in May" (p. 3).

In May 2009 Professor Masters presented his final report, "A shared challenge: Improving literacy, numeracy and science learning in Queensland primary schools" (Masters, 2009). The report made five recommendations all of which were accepted by the government. It also recommended goals such as:

> That the Queensland Government establish a goal to have Queensland
> primary students performing at the level of students in the highest-
> performing Australian states in literacy, numeracy and science within the
> next three years (p. 105).

An additional consequence of the Masters Report was the development and implementation of the Queensland Education Department's Teaching and Learning Audit policy (Lingard & Sellar, 2013). The instrument was developed by ACER and audits began in 2010, with schools scheduled for audit every four years. The document ranked schools against eight elements using a four-point scale: low, medium, high and outstanding. A number of the eight elements related specifically to either data use or improvement (e.g., analysis and discussion of data; an explicit improvement agenda; targeted use of resources; differentiated classroom learning).

As the audit regime was implemented, the results were reproduced as a league table in local newspaper *The Courier Mail* (http://media01.couriermail. com.au/extras/12-1-29-Audits2011.pdf) along with articles such as "Report card: How your school stacks up" (Chilcott, 2012b). In addition to these kinds of external pressures, the pedagogical choices available to teachers have been impacted by results on Teaching and Learning Audits. For example, there is some evidence that some schools (for instance those that had achieved "low" results on Teaching and Learning Audits) were instructed to follow the departmental "Curriculum 2 Classroom" lesson planning more closely (e.g., Chilcott, 2012a; Kennedy, O'Neill, & Devenish, 2011; QTU, 2012). Some of the indicators of "low" achieving schools included schools where: "minimal attention is paid to data (e.g., NAPLAN results)", and "the principal is more focussed on day-to-day operational matters than analysing and understanding school data, setting targets for whole school improvement" (Masters, 2010, p. 2).

The use of NAPLAN as a driver of state education policy has continued since NAPLAN's inception. By 2012, the Queensland Department of Education, Training and Employment had devised and implemented "United in our Pursuit of Excellence" (DETE, 2011), a policy which situated the NAPLAN domains (reading, writing, spelling, grammar and punctuation and numeracy) and science (as recommended by Professor Masters' review which reported on Queensland's poor TIMMS [Trends in International Mathematics and Science Study] results) as a

priority. The improvement focus also extended to attendance measures. The policy provided a differentiated model for supervision of school principals based on school achievement. According to the policy:

> This focus on improvement will be through consistent implementation of these core learning priorities and strategies within an agreed statewide framework, which includes a differentiated model for supervision, support and intervention aligned to school achievement, improvement and context. To achieve this, our collective commitment will be to an unrelenting focus on improved student achievement based on high expectations through alignment from the centre through the region to the school (p. 1).

United in Our Pursuit of Excellence established a process in which regional directors would ensure school principals were repositioned as "instructional leaders" with a collective capacity to drive improvement. Here, NAPLAN data was further cemented as a key accountability measure that would enable the departmental centre to "steer at a distance" (Kickert, 1993), through regional offices. The policy mandated principal management through Principal Performance and Development Plans. An analysis of the role descriptions of Assistant Regional Directors in 2010 (Department of Education and Training, 2010) revealed that this management was centered around the creation and monitoring of School Performance Profiles. The Performance Profile set out school data in the following areas:

- Engagement (e.g., enrolment, attendance, disciplinary absences)

- Achievement (e.g., NAPLAN, A-E grading, senior schooling data (Overall Position))

- Confidence (e.g., school opinion surveys)

- Supplementary information (e.g., teaching and learning audit data, workforce data)

- Achievement and improvement measures (e.g., NAPLAN mean, upper two bands, national minimum standard and gap between Indigenous and non-Indigenous students, and relative gain) (Bloxham, 2013).

An analysis of the combination of data that underpinned principal supervision was closely tied to student achievement data. For example, Teaching and Learning Audit data is closely linked to the use of data as a mechanism for driving improvement (see

above). The translocal impact of United in Our Pursuit of Excellence at the two schools in this research is examined in the following chapter.

The use of numbers as the basis of establishing local accountabilities and enabling new public management has continued as a significant feature of education policy in Queensland. The statistics that are most commonly tied to accountability regimes are frequently student achievement data collected in large-scale standardised, mandated assessment regimes such as NAPLAN, PISA and QCS[10]. The Queensland Plan (Queensland Government, 2014d; Queensland Plan Act, 2014) set out the state's vision for the coming three decades. It included a number of education targets including that "100% of Queensland children have basic literacy and numeracy in primary school" (p. 21) which would be measured using the NAPLAN national minimum standard.

By 2010, Queensland's intensified performance management and "unrelenting" focus on improvement meant that the state was able to achieve 100% of its $48.5 million NAPLAN reward funding. However, Queensland's 2011 NAPLAN results failed to meet a number of targets, and reduced the state's reward funding by approximately seven million dollars. In 2012, Queensland received $41.2 million from a possible $48.5 million reward payment. The COAG Reform Council (2012) noted that the new target was "more ambitious" than the previous year. Queensland met eight literacy and numeracy targets, "made progress" towards seven, and failed to meet one. Again, the high stakes nature of NAPLAN data as a central lever in managing schools becomes clear given that not only had Queensland made explicit efforts to redirect schooling towards NAPLAN improvement, but that despite this, Queensland had failed to meet all targets.

The Department of Education and Training also managed performance via a Performance and Development Cascade for Schools which set out how government "strategic drivers" would flow down into the department through regional offices, schools and ultimately to teachers (DET, 2014e). Given the importance of NAPLAN in federal-state funding arrangements, these explicit links exemplify the clear links between government priorities around improving NAPLAN and PISA performance

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[10] The QCS (Queensland Core Skills) test is a state-wide test completed by all year twelve students who are eligible for an OP (and optional for tertiary rank students) that will be used to gain entrance into tertiary study.

and teachers' work. Departmental reporting (in annual reports) continues to foreground NAPLAN achievement according to the categories used in National Education Agreement such as national minimum standard (NMS) and upper two bands (U2B). These categories have become part of a regime of truth in which the discursive production of success in education is entwined with quantification. For example, the Queensland Plan (Queensland Government, 2014, p. 20) includes a section entitled "What Queenslanders Want". The first goal, which is related to education describes what "success looks like": "The curriculum is responsive and focussed on literacy and numeracy", and "enables academic excellence to national and international standards" (p. 20). The associated target and measures are that:

> Target 1 Literacy and numeracy: 100% of Queensland children have basic literacy and numeracy in primary school.
> Measure: The proportion of Year 3 and 5 students at or above the National Minimum Standard (NMS) for reading and numeracy (p. 21)

Similarly, the department's *State Schools Strategy 2014-2018: Every student succeeding* described that school performance is measured through an "intentional approach to improving the progress of every student" (p. 1).

3.3.10 Gonski: The Review of Funding for Schooling

In 2010 the federal Labor Government commissioned a Review of Funding for Schooling. The review panel received more than 7,000 submissions and undertook school visits before handing down its final report, The Review of Funding for Schooling (Gonski et al., 2011) in February 2012, widely known as "Gonski" (named after lead author David Gonski). The terms of reference asked the commissioners to recommend funding mechanisms, systems of allocations and accountability that would "be directed towards achieving a funding system for the period beyond 2013 which is transparent, fair, financially sustainable and effective in promoting excellent educational outcomes for all Australian students" (Gonski et al., 2011, p. 225). Windle (2014) describes that the Gonski Review represented a significant change in education funding towards corporatisation and new public management. For example, Gonski himself was a well-known businessman, who had been educated at the prestigious private school, Sydney Grammar and spent his career working for a large corporate law firm before becoming an investment banker. Gonski was also well connected, sitting on more than 40 philanthropic and corporate boards (Windle,

2014). The Gonski Review also commissioned reports as part of the review process, including from the consulting firm the Nous Group, which "reveals a similar profile [of corporate and philanthropic connections] to the publicly identified commissioners" (Windle, 2014).

The final report was handed down in February 2012. Its main recommendations included that overall funding needed to be significantly increased; that the majority of funding increases should be directed towards government schools; that a "schooling resource standard" should be created to determine school funding based on base funding with loadings for students with additional needs (e.g., Indigenous students, students from poor and disadvantaged backgrounds and students with a disability). The review recommended that NAPLAN data would be used to calculate this per student funding: "…NAPLAN represents an acceptable starting point for testing the feasibility of developing a schooling resource standard…" The report identified "reference schools" as being those that had the level of resources needed to achieve 80% of students at or above the national minimum standard in their year level for reading and numeracy from 2008 to 2010. This represented approximately one sixth of Australian schools. Scholars such as Justman and Ryan (2013) have argued that the construction of the category reference schools is "flawed because it fails to control for the impact of student background on student achievement, confounding it with the contribution of the school itself to the achievement of its student body" (p. 6). Here, I return to the discussion provided above in Section 3.2 that indicates how and why quantification is always an inherently socially constructed process. As Desrosiéres, Porter, Hacking and others have argued, quantification relies on conventions, such as the definition of reference schools, national minimum standards and the like.

According to Windle (2014), the Gonski Review "while not abandoning equity, reflected a view of education in terms of human capital development, and a particular concern, based on PISA data, that Australia was falling behind Asian competitors" (p. 316). The Nous Group's (2011) report provided significant analysis of Australia's PISA data, including comparisons of achievement between sectors (government, Catholic and independent), highlighting inequities of achievement by socio-economic status, and remoteness. It reported that Australia was being outperformed by "education systems" in Shanghai, the Republic of Korea, Hong Kong, Japan,

Canada and several Scandinavian countries (p. 7). Both the Nous Group's (2011) report and the Gonski report had included significant commentary on school choice. Windle (2014) describes that these analyses represent an "entrenchment of school choice into the temporary social field of policy development as a 'fact on the ground'" (p. 316).

The Gonski report was essentially shelved for more than 14 months, until weeks after the government of the day called a federal election. Having announced its new education policy in time for the election campaign, the federal government quickly began to strike funding agreements with state and territory governments based on their new model. Within 10 days, New South Wales had reached an agreement worth $5 billion extra funding over six years. In the months that followed, the National Catholic Education Commission, Independent Schools Council of Australia, and all states and territories except Queensland, Western Australia and the Northern Territory had reached agreements of their own. However, these agreements were being played out against a backdrop of political instability and a looming federal election. Although Prime Minister Gillard had stated her intention to call an election on September 14, by June 26, coincidentally the day the Australian Education Act (2013) successfully passed through the senate, Gillard was ousted from the Prime Ministership.

Her successor, Kevin Rudd was sworn in, and, already in an election cycle, the two major political parties began to debate education funding. Labor called on state governments to agree to their funding model. The conservative opposition argued it would match the funding "dollar for dollar" but that if elected they would not "dictate what states and territories must do in their schools" (Pyne & Abbott, 2013, p. 1). Ten days before their federal election victory on September 7, the coalition released its education policy known as "Students First".

After forming government, the new Education Minister, Christopher Pyne announced in November that it was "back to the drawing board" for education policy (Wilson, 2013) and that funding agreements with states would be renegotiated over the coming year. Amid outcry from the states with existing agreements, Pyne also announced that the government planned to allocate $230 million in new funding for the states without agreements, with the intent that agreements be struck by December 2013. The timing of the election cycle and the timing of when funding agreements

were struck were critical in how states were funded. Those that had not signed agreements prior to the coalition's victory were in an entirely different position to those that had. The timing of the election in September also left funding decisions until after the election. The eventual funding agreement with Queensland in December was reached in the week prior to the last week of school before the Christmas holiday break. However, once the agreement was struck, the state government still needed to create and announce its own funding mechanism to distribute the $131 million that would flow to Queensland from the Students First policy.

3.3.11 Great Results Guarantee: Education policy and political temporal cycles

In Queensland, Students First funding was delivered to schools via a policy known as The Great Results Guarantee (GRG). On January 28, 2014, Queensland conservative Premier Campbell Newman publicly announced the GRG, just days after Queensland teachers returned to school for the year. Schools were given one month to formulate and lodge their school GRG agreements with the Queensland Department of Education Training and Employment (due by February 28). Although they welcomed the additional funds, the Queensland Teachers' Union expressed concerns about the timing of the GRG announcement (QTU, 2014b) in that Queensland's failure to sign up to Gonski before the federal election meant that schools were now left with just one month to undertake the consultation and planning required to formulate their GRG agreements. During that time schools were to follow the following process:

1. Review the school's strategic planning documentation and audit outcomes in order to identify key areas for improvement.

2. Consult with "curriculum leaders" and regional office staff about proposed strategies and targets for the key areas identified.

3. Consult with teachers and the school community via the school's Local Consultative Committee.

4. Submit the GRG by 28 February 2014

5. Include GRG strategies in 2014 planning documentation.

(QTU, 2014b)

A timeline of events is provided in Figure 3.1

FEDERAL POLITICS

January 23: Prime Minister (PM) Julia Gillard announces her intention to call a federal election on September 14.

August 4: Election called for September 7.
September 7: Conservative coalition forms majority government.

FEDERAL EDUCATION POLICY

April 14: PM Gillard announces $14.5 billion in new education funding based on the Gonski model.

June 26: Australian Education Act 2013 is passed.
August 29: Conservative opposition releases its funding policy. It is not based on Gonski recommendations.

November 26: New federal funding model announced, "Students First". It is not based on Gonski.

2013

2014

FEDERAL-STATE FUNDING AGREEMENTS

June – August: All states, territories and sectors sign funding agreements (based on Gonski model) *except* Queensland, Western Australia and the Northern Territory.

November 26: New federal government announces it will renegotiate existing funding agreements. Premiers insist agreements (covering the next six years) must be honoured. *

December 2: In-principle agreement reached with states/territories without an existing agreement (including Queensland) The PM announced funds would come "with no strings attached". **

STATE EDUCATION FUNDING POLICY

January 28: Queensland Premier Newman announces a new state funding policy, Great Results Guarantee, on the first day of school. Schools have one month to submit "results guarantees".

* http://www.abc.net.au/news/2013-11-26/pyne-adamant-gonski-school-funding-needs-overhaul2c-despite-st/5116978
** http://www.abc.net.au/news/2013-12-02/the-government-pledges-12-billion-for-states-that/5129322

Figure 3.1 Timeline of events: Gonski, Students First and Great Results Guarantee

The timeline of events described in Figure 3.1 (above) highlights how political temporal cycles have contributed towards accelerating sequences of events in the production of education policy. For example, states and territories that had not signed funding agreements with the Commonwealth prior to the federal election in 2013 were subject to an entirely new funding policy after the September 2013 change of government. The September change of government (and subsequent change of education funding policy) also afforded states little time to determine how to allocate federal funds. This subsequently left schools with less than one month to devise and ratify school-based guarantees of results. The experiences of teachers and school principals enacting the GRG is explored in Chapter 6.

3.3.12 Conclusion

The history of quantification of education in Australia is clearly linked to the rise of "cooperative federalism" (Reid, 2011, p. 4) in which federal and state governments have worked together to solve the "blame game" that grew out of Australia's vertical fiscal imbalance (see Section 3.3.5 above). The quantification of education has become a central technology for successive Commonwealth governments to steer from a distance by tying quantified data to the allocation of state education funding. Australia's education policy history has also been driven by changing understandings around the purpose of education. In recent decades, moves towards quantification have been driven by ideological shifts that favour a human capital approach to education and individual choice rather than previous versions of public good (Reid, 2011).

3.4 TEACHERS' WORK IN AN ERA OF QUANTIFICATION

Given the rise of statistics as a central mechanism in the neoliberal policy assemblages described above, it is perhaps unsurprising that teachers' work has undergone significant reorganisation over the past three decades. Internationally, this has been documented by scholars such as Apple (2009), Ball (1990), Harris (1982), Lawn and Ozga (1981) and Smyth (2001). This section outlines the discursive positioning of teachers' work in systems where quantified data has become central to accountability and funding.

In clarifying the educational goals of NAPLAN and *My School*, a Senate committee investigating the effectiveness of both policy regimes referred to a submission by ACARA which stated that [my emphasis added]:

> … NAPLAN is a tool to inform school improvement, not an improver of educational outcomes. It is not the tests that will improve students' literacy and numeracy skills, **but the way students' results** (including school, system and national level results) **are used by teachers**, schools and systems to identify strengths and weaknesses, particularly in teaching practices and programs, that will improve student outcomes (Australian Senate Education and Employment Reference Committee, 2014, p. 8)

An important assumption underlying this statement is that teachers can and do "use" NAPLAN data to improve student outcomes. As the history of quantification demonstrates, the socially-constructed categories and systems that have enabled quantification have frequently been tied to the allocation of funding and the development of tighter accountabilities. Nevertheless, the Senate Committee made a number of findings relating to teachers' use of data, including that:

> The committee noted evidence suggesting teachers and student teachers do not receive sufficient training or support to enable them to properly use or analyse data obtained by NAPLAN testing. ACARA noted the recommendation in the Senate report Teaching and Learning – Maximising our Investment in Australian Schools that advised teachers needed more support in learning how to use evaluative data. ACARA submitted that states and territories already have sophisticated data analysis tools available for teachers to access; however, it is clear that more work could be done to support teachers in becoming skilled at interpreting and using NAPLAN data (2014, s.2.28).

This discursive formation of teachers as lacking skill (in the use of data to inform their teaching practice) is also evident in media reports since at least the inception of NAPLAN. For example, Ferrari (2011), writing in *The Australian* newspaper, described teachers as data "phobic", and as needing to be "dragged reluctantly" into debates about measuring student achievement because they were largely ambivalent about the value of measuring and analysing student test results. Similar media articles such as "NAPLAN tests too hard for teachers" (Morton, 2013) have argued that the recommendation [that teachers be provided with training in data analysis and

interpretation] "represents a stinging rebuke of teachers who have mounted campaigns against the tests as being costly, inefficient and unhelpful" (Morton, 2013). This discursive formation of teachers as unilaterally opposed to student achievement data is particularly interesting given Queensland's long and unique history of assessment in which teachers have collected and used a range of evidence (both quantitative and qualitative) to inform both reporting and to inform curriculum and pedagogical decisions (e.g., Clarke, 1987; Klenowski, 2011; Ward, 2012). Scholarly research investigating teachers' use of data indicates that teachers' engagement with data depends on the purpose of assessment and data collection. For example, when data is collected for performance management and linked to high-stakes teacher accountability, teachers may resist engagement with data (e.g., Park & Datnow, 2009). The literature also indicates that teachers' willingness and ability to use data are different from the ability to analyse and interpret data (Dunn et al., 2013).

Nevertheless, the move towards quantification has also led to an increasing focus on conceptualising teachers' work with reference to data analysis. For example, Standard Five of the Australian Professional Standards for Teachers (AITSL, 2011) refers to teachers' ability to "assess, provide feedback and report on student learning". This standard includes teachers' ability to collect, analyse and make use of both systemic and classroom data. A review commissioned by the Queensland College of Teachers to investigate teachers' practices with data found that the main use of data in schools was focussed around accountabilities rather than improving teaching practice (Renshaw, Baroutsis, van Kraayenoord, Goos & Dole, 2013). Thompson (2013) and Thomspon and Harbaugh (2013) recently conducted research that investigated teacher perceptions of NAPLAN, drawing on a survey of South Australian (n=309) and Western Australian (n= 458) teachers. The research supported the findings of international literature, with teachers suggesting that NAPLAN had created performative pressures that served to narrow the curriculum and increase practices such as "teaching to the test" (Thompson, 2013, p. 74). However, the research also indicated that there was a significant interaction between teacher perceptions and the socio-economic status of the school in terms of how teachers' work was altered (Thompson & Harbaugh, 2013).

This finding is in line with evidence by Luke et al. (2013) whose research surveyed teachers (n= 825) from across Australia working in schools with Indigenous students, and which found that "schools with an ICSEA value of less than or equal to 901 are approximately 1.7 times more likely to report higher levels of basic skills pedagogy than those respondents in schools with an ICSEA value greater than 901" (p. 213). By "basic skills", the research referred to direct instruction in intitial literacy (e.g., phonics) and numeracy (e.g., number facts); the use of test preparation materials and worksheets with standard formats (e.g, multiple choice); and teaching using structured proprietary curriculum packages (e.g., Jolly Phonics) (p. 212-213). The report also found that there was no strong evidence of progressive pedagogies or critical literacies. This over-representation of disadvataged students (Kenway, 2013), and Indigenous students (approximately 84% in government schools (ABS, 2016)) is particularly worrying given that improved equity and excellence are frequently invoked as the rationale for inreasing teachers' use of data. In the U.S. there has also been evidence (e.g., Smith, Lee & Newmann, 2001; Lipman, 2004) that progressive and critical pedagogies are more common in higher socio-economic schools, while schools serving Latino/a, African-American and students living in poverty are more likely to experience basic skills methods of instruction such as rote-learning, worksheets, practice tests and the like.

The trend towards teacher use of data is linked to arguments around the need to maximise objectivity and minimise teacher subjective judgement (Taubman, 2009). Clarke and Moore (2013) describe this move towards standardisation and control of teachers' work as being part of a "responsibilisation agenda" (p. 488) in which it is assumed that teachers' work can be standardised and measured; "underpinned by neoliberalism's deep-seated distrust of professionalism, in general, and of teachers, in particular" (p. 488). This shift towards the use of numbers as part of broader moves towards standardisation and increased accountability can be understood as being part of new public management (Griffith & Smith, 2014). As researchers such as Apple (2013) and Klette (2000) have described, teachers' work has been "proletarianised" in that the patterns of work organisation include trends towards de-skilling and intensification. Smyth (2001) explains that proletarianisation requires "the existence of forces which fragment what teachers do, reducing complex problems down to technical/rational/managerial solutions by controlling the

technology of schooling" (p. 5). The discursive construction of numerical data as an objective and valid measure of student and teacher achievement reconstitutes teachers from trusted professionals to workers who are unable to be trusted to objectively assess student achievement. Power (1999) has described a key shift enabled by quantification as a move towards cultures of audit, in which "perceived difficulties and dangers can be ritually purified and reconciled to existing managerial and economic practice" (p. 313). In this way, the idea of leaving teachers and other workers unaudited becomes "unthinkable" (p. 314).

Because data is so closely tied to audit frameworks, funding, professional standards and accountability, it is perhaps unsurprising that there is emerging research evidence that teachers' work is being reorganised by quantification practices in a multitude of ways. Lewis and Hardy's (2014) research at a metropolitan primary school in Queensland indicated that NAPLAN data had a significant influence on the nature of teachers' work and teachers' discursive construction of what constitutes effective teaching and learning. In this way, data and associated accountabilities operate as forms of governmentality that control teachers' work (Ball, 1997a) and shape teachers' subjectivities (Ball, 2003). For example, as Thompson and Cook (2012) describe, public reports of "cheating teachers" (who are alleged to have undertaken practices such as student overpreparation for testing and removal of underperforming students from NAPLAN) must be situated in an environment where "NAPLAN is the most important vehicle for representing their teaching" (p. 11). As Porter (2012) has argued, the rise of standardisation and quantification in education has encouraged "the reconstruction of school curricula to match the content of the tests, and sometimes make[s] the temptation to cheat almost irresistible" (p. 597). Ball (2003) concludes that the impact of accountability and modern governmentality has affected the "very souls of teachers" who have been repositioned from professional educators to centrally-controlled technicians. Media reporting of data from large-scale assessment programs such as NAPLAN and PISA is often framed in terms of teacher failure. Headines such as "Education Failure" (Hansen, 2013) use data to reinforce perceptions about teacher declining quality and productivity.

Although the enumeration of student achievement is often presented as if it were a neutral account, this largely ignores the work of teachers and school leaders who make key decisions about how numbers are produced. Decisions related to the

production of numbers, such as whether or not to include particular groups of students, are fraught. A school principal in Comber's (2012) South Australian research discusses her decision to include recently arrived students for whom English was an additional language in an early round of NAPLAN testing:

> NAPLAN – last year... they [regional directors] said 'This is it, this is everything'. I came back and said to staff, 'This is it, this is everything, we just have to lift our NAPLAN up', and they said 'Yeah, but we've put all these kids in', and I said 'Well we don't next year, we just don't'....so compared to other category 2 schools, it looked like we were failing, so we were classed as an [acronym for identified schools] because we were a failing school in NAPLAN, and I also said to the teachers, 'We now have to teach to the NAPLAN' (p. 127).

The decision of the principal to alter the school's student exclusion practices in subsequent years, as well as the decision to "teach to the NAPLAN" highlights that teachers and school principals are not passive recipients or enactors of policy, but instead, are "policy actors" who take up a range of positions as they go about their day-to-day work (Ball, Maguire, Braun & Hoskins, 2011).

The effect of student exclusions from tests as a strategy for shaping the performance of schools and districts has also been documented internationally. Nichols and Berliner's (2007) examination of the No Child Left Behind policy in the U.S. indicates that exclusions have been a common strategy for improving enumerated performance, and frequently target already marginalised groups of students. This local work demonstrates Sætnan et al.'s (2010) point that numbers have political and material consequences in teachers' work, and are frequently surrounded by "struggles to be seen or not seen, and struggles over how one is defined" (p. 3). Teachers may adopt a range of roles as they interpret, resist, advocate for and enact a range of policies that are built on the quantification of education. These responses may range from those who provide counter discourses, to those who ignore particular macropolitical demands, and those who simply "cope" with ongoing demands (such as beginning teachers). Comber's (2012) institutional ethnographic research documented the range of work teachers undertook with NAPLAN from "ethically mediating results" (p. 126) as they counselled parents receiving NAPLAN test scores to rearranging the classroom and delivering

NAPLAN using the prepared script instead of engaging in the usual classroom discourse.

Hardy and Lewis (2016) draw on the Orwellian notion of "doublethink", in which one "hold[s] two contradictory beliefs in one's mind simultaneously, and accept[s] both of them" (Orwell, 1949, p. 223) to describe how teachers both critique and commend data; explaining it as "worthless yet important" (Hardy & Lewis, 2016, p. 10). Comber's (2012) research similarly indicates the ethical tensions teachers experienced as they sought to balance the demands of providing transparency by helping parents to understand NAPLAN reports while simultaneously advising parents to "ignore their grid" in an attempt to ensure NAPLAN doesn't become "the final judgement of [students'] abilities". Hovland's (2006) analysis of the use of statistics in Norway similarly describes the doublethink of teachers and heads of school who describe contradictory beliefs in which statistics and data are accepted as both vitally important and unimportant for teachers and students alike. For teachers, these contradictions are played out in a context where enumerated representations of student achievement are a valued by policy makers, bureaucrats, the media and the public. For example, in an article published in the *Sydney Morning Herald* (Milburn, 2012), New South Wales director-general of education, Dr. Michelle Bruniges argued that not only was "effective use of data by teachers… the crux of school improvement" but also that the "ideological debates" about NAPLAN data were leading to "the significant risk… of data *per se* becom[ing] devalued, particularly in the eyes of teachers". As Baroutsis (2016) has argued, the role of the media in reporting NAPLAN tends towards policy reinforcement rather than policy contestation. In this context, teachers are "held to account" for student performance, while there is little "reciprocal accountability" (Darling-Hammond, 2010, p. 280) in terms of holding governments and policy makers to account by insisting on the provision of adequate resourcing to fund improvement.

These changes to teachers' work, and shifts towards quantification, have occurred within a changing global policy landscape, which is explored in the following section.

3.5   GLOBAL EDUCATION POLICY

Globally, the development and implementation of testing practices that enable the quantification of education has a long history. For example, in the early 1900s the U.S. introduced large-scale literacy testing programs as part of its recruitment practices for World War I, but by the 1920s, almost all American school children were being assessed with standardised, norm-referenced tests (Luke & Kraayenoord, 1998). The use of numbers to classify and group students, often as a means of allocating funding and purportedly increasing teacher accountability has been documented since at least the 1960s (Callahan, 1962). Callahan's (1962) analysis of American education in the early half of the twentieth century was based around the rise of scientific management in education.

The rise of Tayloristic practices in education was intimately entwined with quantification. Simon Patten, a well-known educational reformer of the early 1900s, noted that statistics were now being used to measure the efficiency of a range of workers from sanitation workers to drivers. He asked, "why should New York spend its money on schools instead of on subways, parks and playgrounds? Why should it support inefficient teachers instead of efficient milk inspectors?" (cited in Callahan, 1962, p. 48). According to Callahan the result was a shifting focus from equity to accountability and cost-cutting, where the key was implementing systems that allowed education to be "readily seen and measured" (p. 48). By the turn of the twenty-first century, the U.S. had embarked on a major benchmarking program, known as "The New Standards Project", which assessed almost half of American school children according to a set of "international benchmarks" (Shannon & Edmondson, 1998, p. 45). Moves towards quantification have continued to intensify, for example under the Bush administration's "No Child Left Behind" and the Obama administration's "Race to the Top" programs. Globally, the use of numbers as a mechanism to both account for education, and to allocate funds, has been in play since at least the early twentieth century.

A further significant shift has been the move towards international quantification that enables comparison *across* national boundaries. In Australia, data has been collected as part of national participation in a number of international testing programs since the 1960s. These included: The First International Mathematics Study (1964) and the First and Second International Science Studies (1970 and

1983). State participation in The First International Science Studies program was negotiated on the proviso that comparisons between states was excluded (McGaw, 1994).

However, the Second International Science Study provided both international and intra-national comparisons. For example, the Australian Capital Territory was ranked similarly to Japan (the second ranked country internationally) while Queensland's results were similar to the Netherlands (the third ranked country internationally) (Rosier & Banks, 1990). Analysis across the two studies showed that Australia's performance had been relatively stable, while the performance of other participating countries had risen. For example, in 1970 Australia had ranked third among 14 year-olds, but by 1983 was an equal fourth along with six other countries (McGaw, 1994). Thus, the move towards quantification of literacy and numeracy at the national level had begun to gain greater momentum from the mid-1990s. This move made way for increased national and international comparison. As W. Smith (2016) describes, the concurrent growth in national and international testing practices that have occurred over the past two decades are complementary, and can be seen as part of an emergent global testing culture.

One of the key drivers of global education policy has been the rise of large-scale, globalised testing programs such as PISA. The following statement made by Andreas Schleicher (2013) (Director of the Education and Skills Directorate, OECD) is typical of discourses that privilege numbers as an objective way of understanding and comparing education systems:

> PISA has…helped to change the balance of power in education by making public policy in the field of education more transparent and more efficient (Schleicher, 2013, para. 5).

PISA's history is relatively recent, having commenced in the Year 2000, with just 43 education systems participating. Although it has only been implemented on six occasions (2000, 2003, 2006, 2009, 2012 and 2015), it has not only grown in size (with 71 participants in 2015) but has also become central to education policy, discourse and research around the world (Lewis, 2014). The OECD (2013b) has adopted a human capital approach towards education, for example describing that "the quality of education is necessary to achieve economic competitiveness in a context of global economic competition" (p. 47). In this context, the OECD has

argued that in a global "knowledge society" this "raises the payoff for good performance and amplifies the penalty for poor performance" (p. 47). Despite the claims that large-scale data such as PISA improves effectiveness, transparency and equity, PISA data is most commonly used to create hierarchies and league tables in which there are clear winners and losers in the global education marketplace. As Serder and Ideland (2016) have argued, "low performance" as measured by PISA is not a "reality", but rather, a reflection of measurement rationalities and techniques combined with performance.

The OECD is increasingly attempting to quantify all aspects of education, and is now trialing various other large-scale assessment tools such as the International Assessment of Higher Education Learning Outcomes (AHELO), which quantifies post-secondary education; the Programme for International Assessment of Adult Competencies (PIACC); and PISA-based Tests for Schools, which allows individual schools to participate and gain benchmarked data against other reference countries and systems. Shahjahan (2013) has argued that the OECD's expansion through tests such as AHELO represents a continuing move towards global education policies that are Anglo-Eurocentric and preserve colonial world views in global higher education.

Despite these criticisms, global testing regimes have continued to gain traction, largely as governments and policy makers have used global statistics to create shocks that enable further neoliberal reform. Sellar and Lingard (2013) describe the use of "reference societies" as a means of producing "PISA shocks". In the 2009 round of PISA testing, Shanghai emerged as a significant new reference society, that was seen by countries such as Australia, the U.S. and the U.K. as "winning" the education race (as described by both U.S. President Obama and Australian Prime Minister Gillard) (Sellar & Lingard, 2013, p. 472-478).

The notion of deliberately using or manufacturing a crisis to enable reform grew out of Milton Friedman's neoliberal ideologies developed at the Chicago School of Economics (Klein, 2008). Friedman explained that "only a crisis – real or percieved – produces change" (cited in Klein, 2008, p. 6). In his late 90s, Friedman (2005) wrote a piece for the Wall Street Journal in which he proposed further neoliberal education reforms in the wake of Hurrican Katrina in New Orleans:

> Rather than simply rebuild the destroyed schools, Louisiana, which has
> taken over the New Orleans school system, should take this opportunity to

empower the consumers, i.e., the students, by providing parents with vouchers of substantial size, say three-quarters of per-pupil spending in government schools, usable only for educational expenses. Parents would then be free to choose the schooling they considered best for their children. This would introduce competition, which is missing from the present system.

The use of a shock to enable privatisation "accomplished in one day… what Louisiana school reformers couldn't do after years of trying" (American Enterprise Institute, quoted in Klein, 2007, p. 7). The use of statistics to apply education shocks are frequently applied using global education data. The release of 2012 PISA data was reported in Australia under headlines such as "NAPLAN: NSW 10 to 15 years behind world's best" (A. Smith, 2015), "PISA report finds Australian teenagers worse than 10 years ago" (Bita, 2013), "OECD report finds Australian students are falling behind" (Tovey & Patty, 2013) and "Poor PISA results for Australian students in science and maths needs to be urgently addressed" (Martin, 2013). Some media outlets couched their reports in terms of within-country variances (such as gender differences in mathematics) but most frequently, the reports used the data to make direct international comparisons (e.g., "Teens in Asian countries ranked smartest for problem solving according to OECD study", Ferrari, 2014d). Lingard and Sellar's (2013) notion of data-led "moral panic" is exemplified in the reporting from major media outlets such as News Corporation (e.g., Bita, 2013; Ferrari, 2014d) and the Australian Broadcasting Commission (e.g., Australian students slipping behind in maths, reading: OECD report, 2013) where sensationalist headlines, interactive maps and league tables graphically represented the "problem" of poor performance and Australia's lack of competitiveness. These reports also exemplify the expanding regime of truth around the purpose, validity and neutrality of numbers as a means of representing student learning and achievement.

The same logics flow through to national testing, with NAPLAN similarly able to administer shocks to underperforming sub-national systems. In an article entitled "Schools on the rise after tests deliver wake-up call" published in *The Australian* Ferrari (2014c) wrote that:

> SHOCK therapy was administered to the Queensland education system six years ago when the first national literacy and numeracy tests revealed that the state's students languished at the bottom.

The article went on to describe how various schools that had performed poorly in the first year of NAPLAN had responded to the shock treatment by drawing on positivist assumptions, characterising NAPLAN as a form of "scientific evidence" that provided the shock needed to drive student improvement.

Policy makers and politicians have also used global datasets, most commonly PISA, to justify national reform efforts. For example, in 2013, ABC News (as well as various other media outlets) reported federal Education Minister Christopher Pyne as saying, "these are the worst PISA results since PISA began in 2000…. They are a serious wake up call for the Australian education system" (Bita, 2013). The transformation of statistics into educational truths creates a problem that according to Pyne and Prime Minister Tony Abbott could be solved with neoliberal and neoconservative policies such as a renewed focus on teacher quality (to be measured with even more data), a back to basics curriculum and school autonomy. These neoliberal policy discourses are part of what Novoa and Yariv-Mashal (2003) describe as a new "global policyspeak", or the emergence of neoliberal policy borrowing on a global scale that are linked to new forms of public management and "steering at a distance" (Kickert, 1993). As Porter (1996) has argued, policy makers have a "strong incentive to prefer precise and standardisable measures to highly accurate ones" (p. 29) because numbers can become reified facts that are able to inscribe the complex embodied realities of real life into categories that allow for technologies of governance to operate (Rose, 2003).

As Biesta (2015) reminds us, numbers such as PISA data have no intrinsic power, but "become powerful because people seem to believe in it" (p. 358). Despite the OECD having no direct influence over national education policies, member and non-member states are willing to invest in the OECD's operations, which represents the "soft law" or "bottom up" power of global education policy (Biesta, 2015) in which there are shared understandings around education: for example that education can be quantified in useful ways; that quantification enables better management of education and improves effectiveness; and that quantification improves social justice outcomes. W. Smith (2016) has argued that a "global testing culture" has emerged in which high-stakes standardised testing is now accepted (and sought after) as a foundational education practice.

Although consideration of the mathematical and technical validity of statistics is beyond the scope of this thesis, I note that there is a range of research that investigates claims of assumed validity of PISA data (e.g., Berliner, 2011, 2015; Goldstein, 2004; Gorur & Wu, 2014). Neither the government nor the mainstream media reporting of PISA engages in serious or ongoing debate about the validity of PISA data or ranking system, despite methodological concerns about the conduct, analysis and interpretation of PISA results having been raised in academic literature (e.g., Goldstein, 2004; Kreiner & Christensen, 2014). Since its inception, the OECD has provided the following purposes for PISA testing (which has remained relatively unchanged since):

> How well are young adults prepared to meet the challenges of the future? Are they able to analyse, reason and communicate their ideas effectively? Do they have the capacity to continue learning throughout life? Parents, students, the public and those who run education systems need to know (OECD, 1999, p. 7)

Scholars such as Dohn (2007) and Biesta (2015) have questioned whether PISA tests and measures "students' knowledge and skills for life" and outcomes, or rather, whether it tests knowledge and skills in assessment. Regardless of these ongoing debates, as Sellar and Lingard (2013) point out, PISA continues to expand both in scope (i.e., what is measured), scale (i.e., by increasing the number of participant countries, systems and schools) and the explanatory power data is afforded.

Understanding how global policies and ideological codes operate in complex ways across institutions and at the local level is central to the work of institutional ethnography. The reproducibility of global quantified data sets that are taken up at national and subnational levels to justify local policy moves demonstrates how both national and global policy infiltrates local sites as part of a complex web of ruling relations. The following chapters in this thesis explore how this combination of global, federal and state policies are experienced by teachers. The rise of numbers as a central tool for promoting marketisation and controlling education now exists at the global level (through the work of organisations such as the OECD), in what Sahlberg (2007) describes as a "GERM" (Global Education Reform Movement) that has infected global education policy.

3.5.1 The rise of edu-businesses

In a context of converging global education policy, the networks between large, often multinational institutions and corporations are increasingly being examined (e.g., Ball, 2012a; Hogan, 2014; Junemann & Ball, 2015). Ball and Junemann's (2012) extensive network ethnography of philanthropic families and organisations, education businesses and organisations provides important insights into how global networks have operated to build narratives in which neoliberal ideas are constructed and maintained. Ball and Junemann (2012) describe these networks as heterarchies because they do not follow traditional administrative structures, but rather, are "an organisational form somewhere between hierarchy and network that draws upon diverse horizontal and vertical links [and] that permit[s] different elements of the policy process to cooperate (and/or compete)' (p. 138). Taubman (2009) describes that much of the corporate, philanthropic and political support of standardisation and accountability is because of shared ideologies and "a commitment to corporate agendas" (p. 33). As Hursh's (2015b) analysis reminds us, we have now "transformed education by turning over policy making to the rich and powerful who are generally unelected and unaccountable" (p. 9). In Australia, as in other parts of the world that have adopted corporatised and marketised approaches to education, these changes been underpinned by the use of numbers to enable comparison and accountability. Many of these reforms have occurred with significant input from the private and not-for-profit sector. Ball (2012a) argues that:

> In effect, to different extents in different countries, the private sector now
> occupies a range of roles and relationships within the state and educational
> state in particular, as sponsors and benefactors, as well as working as
> contractors, consultants, advisers, researchers, service providers and so on
> and both sponsoring innovations (by philanthropic actions) and selling
> policy solutions and services to the state, sometimes in related ways (p. 112).

Wanna (2009) has suggested that this shift has repositioned governments from providers and owners of policy into "facilitators" (p. 266), working with external organisations to develop and deliver services. In Australia, the introduction of NAPLAN provided a unique moment for a growth in private-public partnerships, and subsequently, for edu-businesses to open up new markets selling diagnoses and programs for remediation to governments, schools and parents. Hogan's (2014)

network ethnography sought to reveal the complex partnerships between ACARA, state education authorities and private service providers for the development, implementation and reporting of NAPLAN data. Across nine stages of the NAPLAN lifecycle from development, trialing, printing, testing, marking and reporting, Hogan reports that ACARA is responsible for seven; and that aside from developing guidelines for test development, external organisations are contracted to provide all other services. In 2012, these contracts totaled $4,266,341. The four most significant edu-businesses contracted to develop and deliver NAPLAN were ACER, Pearson, Educational Measurement Solutions and Educational Assessment Australia. Because some of the work (such as printing and distribution) is not a federal responsibility, states and territories have also entered into private-public partnerships to deliver NAPLAN. Every state and territory contracted Pearson to undertake this work, except for Queensland, who contracted FujiXerox. As Hogan (2014) argues, "this presents Pearson as a central agent in the NAPLAN policy network, as they have significant contractual obligations with Commonwealth, State and Territory Governments". Pearson is heavily involved in large-scale national and international testing systems including PISA, has a stated goal of achieving "global education policy consensus" (Lingard & Hogan, 2015) via its goal of becoming a "truly global enterprise" (Pearson plc, 2012, p. 4). Pearson's transformation into an education business is based on growing contractual arrangements with governments to provide large scale testing and other services; as well as growth in its retail business, which includes selling standardised assessments and "learning solutions" to both educational institutions and parents/consumers (Junemann & Ball, 2015, p. 5). In expanding its reach, Pearson has increasingly looked towards new markets by drawing on the discourse of crisis and shock to position itself as a provider of services such as low-fee private schools in India and Pakistan, as well as a number of South American and sub-Saharan African countries. Pearson's $8 billion turnover demonstrates the lucrative nature of standardisation and quantification for global edu-businesses. In 2014, the OECD awarded Pearson a contract to develop frameworks for the 2018 round of PISA testing (Junemann & Ball, 2015). Hogan (2014) contends that Pearson has "fortifie[d] its transformation not only from a business to an edu-business, but from an edu-business as a traditional provider of education products and services to a potential new role as a 'provider' of education policy problems and policy solutions" (p. 95). Pearson continues to be the centre of

numerous controversies around its business structures (for example being fined for funneling funds from its philanthropic arm, "The Pearson Foundation" into a parent company) to producing invalid and inappropriate tests and threatening academics that challenge its testing practices and products (Ravitch, 2014).

In Australia, Pearson has also signed new contracts and created additional opportunities to expand its interests in student testing. For example, David Barnett, the Chief Executive of Pearson Australia was appointed to the federally commissioned "Expert Advisory Group for Digital Education" (Garrett, 2013).

ACER have also had significant involvement in the development and delivery of PISA (Pereyra, Kotthoff & Cowan, 2011; Turner & Adams, 2007) who were initially contracted by the OECD's Board of Participating countries in the mid-1990s to lead a consortium investigating the development and design of what would eventually become PISA (Board of Participating Countries, 1998). ACER are an important part of both the global and national policy heterarchical landscape, both through directly contracted services in PISA and NAPLAN lifecycles, but also in the provision of related products. For example, the Literacy and Numeracy National Partnership agreement for Queensland included use of ACER's Progressive Achievement Tests (PAT) for both maths and reading. Recall that ACER were also contracted to determine if state and territory targets that were the basis of reward funding were suitably ambitious. In the Auditor-General's report (Australian National Audit Office, 2012), it was noted that:

> …there may have been a perception of conflict of interest, because Queensland proposed using an off-the-shelf test as a local measure. The Progressive Achievement Test (PAT) is a popular assessment instrument used in many schools across Australia. ACER's role was to assess whether the targets set by jurisdictions were reasonable and ambitious, and whether the instrument used to measure improvement or gain would provide the necessary data. In this case, ACER had expert knowledge to determine whether the targets based on the PAT were reasonable and ambitious, because ACER developed the PAT. This would be same as ACER's knowledge of NAPLAN test construction, scaling and scoring, which assisted in determining whether targets on the mandated measures were reasonable and ambitious.

PAT tests continue to be used by schools, often to support student improvement (e.g., Hardy, 2013b). A number of regions in Queensland also mandated the use of PAT tests in all schools as part of an overall improvement agenda. ACER's website and email lists also provide schools and teachers with additional options to purchase attendance at PAT workshops, suites of PAT tests and the like. ACER are also increasingly positioning themselves as a global edu-business, having led a consortium over many years that has been central to PISA development and implementation, as well as by providing national testing in a range of countries. By way of example, ACER was contracted to develop and administer the United Arab Emirates' (UAE) National Assessment Program in 2010 in response to the UAE's reportedly poor 2009 PISA results (which ACER had been contracted to deliver in 2008) (Egbert, 2012). Eerily similar newspaper articles to those in the Australian press emerged, lamenting that the students were "lagging behind" with literacy abilities that are "below standard" (Absal, 2011).

ACER also provides an "International Schools Assessment" (ISA) for International Baccalaureate schools. According to ACER's ISA website, the test "is based on the internationally endorsed reading, mathematical literacy and scientific literacy frameworks of the OECD's PISA". According to ACER's "Global Education Monitoring" website and *International Developments* online magazine series, ACER works with "development partners" (such as UNICEF and the World Bank) to deliver various forms of assessment across the globe, with a focus on sub-Sahara Africa and Asia. In addition, ACER's MyPISA website states that:

> The design and implementation of PISA for the 2000, 2003, 2006, 2009 and 2012 data collections has been the responsibility of an international Consortium led by the ACER.

ACER has also broadened its reach nationally, for example it has recently been contracted to implement a national literacy and numeracy test for pre-service teachers, having developed and delivered a trial of the test during 2014/15. These changes are significant, and represent a significant shift in both policy development and enactment across the globe. The collection of standardised, numerical data that enable both comparison and increased accountabilities is profoundly linked to the rise of edu-businesses and the nature of schooling at the local level.

3.5.2 Marketisation of education

The move towards standardised and quantified data collection as part of neoliberal ideological agendas described above are linked to the rise of education as a quasi-market. Whilst education itself cannot be commodified (Connell, 2013a), access to education can be rationed through the creation of hierarches and competition (Gillborn & Youdell, 2000). A key difference between neoliberalism and previously dominant ideologies is the insistence that governments exist to facilitate the operation of market-like structures in all domains, including education. Importantly, neoliberalism creates a drive towards markets "that call into question any and all collective structures that could serve as an obstacle to the logic of the pure market" (Bourdieu, 1998, para. 5).

Marketisation may have been part of educational discourses in Australia for decades, but has intensified as education has been formed as a seemingly manageable (and measurable) market through NAPLAN data, like-school comparison data and measures such as ICSEA which are all "made possible" by the publication of NAPLAN data on the *My School* website (Gorur, 2013, p. 214). These policy assemblages constitute schools as "products" with comparable characteristics, ostensibly enabling consumers to make informed decisions (Gillborn & Youdell, 2000; Gorur, 2013). Gillborn and Youdell (2000) note that for education to function as a market, it requires the fabrication of a level playing field where products have comparable characteristics, and consumers ostensibly make informed decisions.

The push towards marketisation has informed policy directions and education discourses, as exemplified by a speech that the then-Prime Minister Julia Gillard gave to launch *My School*. She declared that "you will see more information about Australia's near-10, 000 schools than you ever have before. For the first time, parents will be able to see exactly how their child's school is doing" (Gillard, 2010).

Proponents of neoliberal policies commonly argue that competitive systems will correct inequity because in an open market schools become more effective and efficient, in order to compete for "customers" (Windle & Stratton, 2013, p. 202). Describing the introduction of NAPLAN, then-federal Minister for Education Julia Gillard said that:

> Well I want to achieve an Australian education system where we don't see
> kids and schools left behind. And I think if we're honest we would say that

we could look across our cities and our states and we can identify pockets of disadvantage and schools in those communities that are getting left behind (Gillard, 2008).

According to this logic, bolstering the education market is the solution to the equity "problem". Globalised market-oriented logics link competition and choice with fairness and opportunity. Although equity is a part of neoliberal discourses, it is generally framed in terms of individual rights and responsibilities, for example, the right of parents/consumers to choose schools (Ministerial Council on Education Employment Training and Youth Affairs, 2006). In the field of education, Stromquist (2002) describes the argument for equity as:

> being directed toward "ending the injustice of social promotion", "holding all students to the same high standards", making students "work hard", and creating "world-class schools". But since principles of equity now operate in parallel with reductions in government support for public education, the drive for student success ends up placing responsibility (and thus blame) on parents, students, schools, and teachers (p. 28).

In terms of producing more equitable outcomes there is little evidence that the Australian education system has made any significant gains since the introduction of NAPLAN or *My School*. Indeed a large body of literature over the past forty years has repeatedly found that neoliberal policy assemblages from across the globe have increased inequalities in terms of education, income, wealth and privilege (e.g., Gillborn & Youdell, 2000; Thomson, 2008). In the U.S., the neoliberal restructuring of education has been described as "deeply racialised" while simultaneously silencing meaningful debate on issues of equity (Lipman, 2011, p. 117). African American and Latino students are under-represented in college-track pathways and over-represented in military, prison and athletics pathways (Lipman, 2004; Mocombe & Tomlin, 2013). Similar research exists in Australia. For example, Indigenous students are much more likely to be streamed towards vocational education pathways, and away from traditional academic, university-bound pathways (Luke et al., 2013).

Despite neoliberal logics that promote competition as a way of correcting inequitable systems, Gillborn and Youdell's (2000) notion of "rationing" education demonstrates that marketised systems actually rely on inequity to function, and that

quantified data is often used as the purportedly objective tool on which to base funding and resourcing decisions. They describe a form of "educational triage" where data is used to classify students are into three groups: able to achieve with no intervention; able to meet benchmark standards with intervention; and, "hopeless cases" (p.134). Worryingly, this data is used as a basis for rationing resources according to those most likely to improve school data (p. 66). In similar ways to medical triage, attention is focussed on the group of students who will receive most benefit with targeted intervention. Using data to make these kinds of decisions has serious implications for equity, and explicates how the use of statistics is central to the operation of marketised systems and the reproduction of inequity. Although Gillborn and Youdell's work was based on the U.K. education system, a similar experience has also been documented in the U.S. (e.g., Booher-Jennings, 2005).

Whilst within-school rationing of resources extends inequities, between-school difference is also central in a marketised education system. As schools commodify and sell sought-after privileges such as "good data", teachers, buildings and grounds, "there need to be visible losers, if parents are persuaded for their children to become visible winners" (Connell, 2013b, p. 282). Although *My School* has visually depicted the winners and losers, schools have also used a range of other data (such as senior schooling data) on websites and marketing materials to promote themselves in the education marketplace. In Australia, real estate websites (e.g., domain.com) now include features that allow home buyers and renters to search within the catchment areas of desirable schools.

Because marketised systems are built on egalitarian assumptions, redistributive mechanisms are considered unnecessary and are either dismantled or weakened (Connell, 2013b) as was the case when the Gonski reforms were abandoned and the Students First policy was introduced (see Figure 3.1, p. 111). Ball (2003) has similarly described the U.K. experience of neoliberal policy as drawing on underlying assumptions that egalitarianism and competition are both natural and productive. Ball's (1997b) central argument is that in a market driven education system, both consumers (parents and students) and producers (educators and policy makers) operate from personal standpoints that largely disregard notions of equity and social justice (p. 259). Because dependence on the state is constituted as being a "morally lesser form of being" governments can move from being providers of

equitable social policy to "enablers" of individuals who are responsible for their own well-being (Davies & Bansel, 2007, p. 253) including achievement on standardised tests. One of the most significant global discursive shifts is the "virtual disappearance of the language of equity or social justice" (Taylor & Henry, 2003, p. 4). This shift has been enabled by the explosion of quantification from the global to local levels.

3.6   CONCLUSION

The history of quantification has culminated in a situation in which numbers are so ubiquitous to education policy that they have "colonised our collective imagination" (Gorur, 2016, p. 1). The convergence of global education policy and "hypernarratives" (Stronach, 2009) since the cold war has relied heavily on the creation of expanded and intensified systems of quantification. Hursh (2015b) describes that the global move towards high-stakes testing is central to "the assemblage of things that make up schooling" (p. 105). The use of numbers at global, national and subnational levels is an important "policy technology" (Ball, 2003, p. 215) that enables neoliberal education reforms such as marketisation, managerialism and performativity. These "statistical abstractions… made from data that are generated via standardised achievement measures" (Nichols & Griffith, 2009, p. 246) replace subjects (such as teachers and students) with objects (such as numerical textual representation) and allow comparisons to be made across translocal sites. Quantification allows aggregated statistical data to be presented as a summation of education systems. It also assumes that numbers can and should be used to make direct comparisons, judgments and to allocate funding and resources. As Gillborn (1997) describes, ideas that once may have seemed "fanciful, unworkable – or just plain extreme" (p. 357) can become part of a common-sense regime of truth. The Chief Statistician's 1911 pronouncement that tabulating statistics on literacy was unnecessary given that enforcement of compulsory education meant that the number of adults without literacy skills would be "very small and relatively insignificant" (p. 167) stands in stark contrast to the description of NAPLAN in ACARA's 2013/14 annual report:

> NAPLAN, now in its seventh year, builds on this national approach by assisting governments, education authorities and schools determine whether young Australians are meeting important goals in literacy and numeracy. It

allows those people with the power to help our children, to direct resources
to where they are most needed (p 2).

Yet, as Porter (2012) has argued, the quantification of education requires an attempt to measure the "unstandardisable" – a difficulty that Australia has experienced in its attempts to quantify education since before federation. Explicating the socially constructed nature of quantified data, and its role in modern power systems has been a key contribution of the sociology of numbers literature. As the history presented in this chapter illustrates, the rise of quantification in education has been linked to increased accountability and new public management, in which numbers are a key technology of control. The analysis presented in the following chapters explores how these significant global and national shifts are experienced at the local level.

Chapter 4: There is only one game in town: NAPLAN data as a ruling text

4.1   INTRODUCTION

In this first analytic chapter, I trace the production of NAPLAN data beginning from the work that teachers undertake on NAPLAN testing days. The analytic focus is on understanding how institutional texts coordinate teachers' doings with students both during and after the NAPLAN test period, as well as how they shape teachers' subjectivities. The chapter proceeds by following student tests as they are turned into numbers, with a focus on exploring how these numbers are disseminated to the public and ultimately back to schools. Here I attend to the way in which NAPLAN numbers are presented, taken up, and rearticulated as an objective form of knowledge about teachers, schools and teachers' work. I then examine how this knowledge is picked up in institutional textual chains as policies that are enacted at the state and regional levels, and that authorise school principals to institute local policies and processes aimed at improving or maintaining NAPLAN data.

In this chapter, I aim to make the textual links between NAPLAN data, media, policy and teachers' work visible. In researching texts that made reference to NAPLAN data – be they media, government, education department, business or school texts – it soon became clear that the quantity of texts that refer to NAPLAN data was inordinate. The sheer number of media and policy texts that use NAPLAN data to justify decisions or make commentary about the state of Australian education demonstrates a profound discursive insistence that education can and must be quantified. As described in Chapter 2, data collection for this research included the assembly of policy and institutional texts that present or make reference to NAPLAN data at various jurisdictional levels (i.e., national, state, departmental and school levels). Although some of these texts were collected during visits to the schools, many more were collected online. Collecting this data required extensive searching of publicly available policies on government, departmental and library websites. I also made use of the work of other scholars who have undertaken document analysis,

for example Gable and Lingard's (2013) review of the NAPLAN policy context and the work of scholars such as Bloxham (2013) and Ward (2012) who have completed doctoral research that examines NAPLAN and related policies.

The networks of policies that make reference to NAPLAN data made decisions about what to include in this chapter difficult. As in any research, choices about what is included and what is left unsaid are fraught, and can only ever provide an incomplete representation of the current state of affairs. In thinking through these decisions, and in selecting texts to present in this chapter, I looked towards those documents which constructed common sense truths about data, and which were linked to teachers' work. Thus, I looked for those key texts that coordinated teachers' work at both East Side High and North Bank Primary, and that reflected common discursive claims about the nature of NAPLAN data and teachers' work. The texts that were analytically valuable, some of which appear in this chapter, were part of textual chains that linked NAPLAN data to teachers' work and were frequently those that positioned teachers as part of a problem and/or solution in the process of diagnosing/remediating by number. This was not always obvious to the teachers themselves, who weren't always aware of how policies and texts they experienced at the local level were tied to complex chains of documents. This work required close examinations of texts and of teachers' and principal's accounts in search of "institutional traces that help explicate the social situation" (Rankin, 2014, p. 530).

In Section 4.2, I examine the texts that govern teachers' work as NAPLAN data is produced at the time of testing. My objective here is not simply to examine how teachers' work is changed by the requirement to collect data via NAPLAN testing, but also to consider how policy texts create subject positions for teachers. This is important, as Ball (2015b) writes, subjectivity is the "point of contact between the self and power" (p. 3). Analysis of this early stage of data production thus reveals how the demand for the production of scientific truths about student knowledge, represented as numerical facts, also produces truths about teachers' work.

In Section 4.3, I examine how NAPLAN statistics are collected and presented by the media and policy makers as an objective form of knowledge about students, schools and teachers. My purpose is to discover how numbers are used to make sense of students, schools and teachers' work. Here, I pay close attention to how the discursive construction of NAPLAN data creates subject positions that link common-

sense truths about teachers and their work. This work is central in illuminating what Foucault (1997a) described as "regimes of veridiction" (p. 38), which establish the rules of truth-telling, thus enabling "which statements in a given discourse can be described as true or false" (p. 39). As purported truths about teachers, schools and entire states begin to circulate, teachers are located in the discourse, which is important as data returns to schools.

In Section 4.4, I examine how NAPLAN data re-enters education systems. Here I begin to map how NAPLAN data is textually-tied to education policies that exert performative demands on school leaders, and which are the catalyst for activity at the local level. My aim is to consider how the production of NAPLAN data as a social product is textually linked to teachers' everyday work, for example to curricular and pedagogic choices. I pick up on the notion of texts as "active and occurring" (Nixon & Kerkham, 2014, p. 3; Smith, 2001, p. 174) because how texts are read and activated by school leaders is central to the courses of action that follow. That is, the texts that transmit NAPLAN data back to teachers are part of "the bridge between the everyday/everynight local actualities of our living and the ruling relations" (Smith, 1999, p. 7). The aim of this section is to explicate how these texts activate subsequent courses of action at the school level, authorising work that is orientated towards NAPLAN data as a ruling text.

4.2   NAPLAN DATA IS COLLECTED

As described in Chapter 3, the production of NAPLAN data is part of a circuit of diagnosis (data collection, entry, analysis, publication) and remediation (response to the diagnosed "problem"). Beginning from the point of diagnosis, the first work that teachers encounter is the administration of NAPLAN testing. The test itself enters teachers' work in various textual forms – from the tests that students complete to the handbooks that provide instructions on test administration to the various practice tests and newsletters (for example produced by local curriculum authorities) that issue instructions and clarifications around test taking.

In this section I examine the work teachers do to collect NAPLAN test data, which allows it to be inscribed as numbers. This is particularly important given that media and policy reports tend to conceptualise teachers' work with NAPLAN according to the time spent administering the tests over three days, as well as the

coaching and teaching that is specifically aimed at test preparation. By this, most media commentators refer to teaching to the test, describing work such as drilling students explicitly on NAPLAN content and test procedures prior to the test (e.g., Barrett, 2014; Ferrari, 2014a). Clearly, this work is time-consuming and should not be discounted. However, as will be seen in subsequent sections of this chapter, NAPLAN data is closely linked to networks of institutional texts that are enacted in ways that authorise vast amounts of work that extend far beyond test administration and teaching rudimentary test-taking skills.

To accomplish the direct requirements of NAPLAN assessment, teachers and schools are provided with a range of detailed administrative procedures from the Australian Curriculum and Assessment Reporting Authority (ACARA). This includes test administration handbooks for teachers (ACARA, 2015b), a handbook for principals (ACARA, 2015a) and a set of national protocols (ACARA, 2015c). The handbooks for teachers (a separate document is provided for each NAPLAN year level) specifies precisely how teachers must prepare for and administer student testing, stipulating details such as the dates and times that students should undertake NAPLAN tests (for example, students should finish by 1pm on the first day of testing); how classrooms should be prepared (for example, students should not use mechanical pencils, correction fluid or mobile phones); how students may be assisted (for example, teachers may read aloud the word 'ten' to a student in the numeracy test, but may not read aloud the numeral '10'); and so on. It also mandates the use of "test administration scripts" that are to be read by teachers to students during testing. The scripts also advise how teachers should interact with students throughout the testing period. For example, at the beginning of the Year 3 reading test, teachers are instructed to say:

> Today you will complete a Reading test. You should each have your Year 3 Reading testbook and a Year 3 Reading magazine, a 2B or HB pencil, a sharpener and an eraser on your desk. You are not to use mechanical pencils such as Pacers. Check to see that you have these things. Do not open your testbook or magazine until I tell you to. [Allow students time to check they have the appropriate materials].

This scripted organisation of teachers' work has been described by Comber (2012) as a form of "ventriloquism" (p. 130) in which teachers' subjectivities are displaced by

the textual requirements that impose specific, unfamiliar classroom discourse. While these documents are primarily concerned with administrative compliance, they also codify other aspects of work, such as the preparation of students prior to testing. The 2015 Handbook for Principals (ACARA, 2015a) includes a Code of Conduct that states (Section 2.3, p. 3) that:

> Schools and teachers should adopt appropriate test preparation strategies that familiarise students with the test process and question formats, but do not excessively rehearse students such that results reflect prepared work rather than students' own abilities. The best preparation schools can provide for students is teaching the curriculum, as the tests reflect core elements of the curriculums of all states and territories.

At this point, it is worth noting that NAPLAN testing began in 2008, well before the first phase of the Australian Curriculum was drafted or rolled out. Nevertheless, the NAPLAN test domains, which have remained the same each year, purport to reflect "core elements of the curriculums of all states and territories". Although the Code of Conduct describes that the best preparation for NAPLAN is teaching the curriculum, the following elaborations make it apparent that there is a twofold focus on avoidance of excessive test preparation that would provide students with "unfair advantage", and the avoidance of cheating behaviours among teachers and students:

> 2.3.1 The best preparation schools can provide for students is teaching the curriculum, as the tests reflect core elements of the curriculums of all states and territories.
>
> 2.3.2 Any actions that compromise the ability of students to produce results that reflect their own unrehearsed knowledge and skill are inappropriate.
>
> 2.3.3 The preparation of possible responses for any test is inappropriate.
>
> 2.3.4 Any attempt by school staff to unfairly or dishonestly manipulate test results is inappropriate.
>
> 2.3.5 Any attempts by students to gain an unfair advantage are inappropriate.
>
> 2.3.6 Any attempts by any party to modify an answer after the test are inappropriate.

The first three of these points deal directly with minimising what might be considered teaching to the test, in which students memorise prepared responses. Here, teaching the prescribed curriculum is put forward as the best alternative to excessive preparation for the test. This view that teachers can simply "teach the

prescribed curriculum" implies that teachers are technicians who are able to disregard subjectivities, local rationalities and the social relations of everyday life. As will be shown in the latter half of this chapter, a significant number of institutional texts operate together to ensure teachers retain a strong focus on implementing curriculum, pedagogy and assessment choices that prepare students for NAPLAN.

The seemingly straightforward instruction to teach the prescribed curriculum ignores the power that resides in statistics when they are used as governance mechanisms and are linked to accountability regimes. As the history of statistics has demonstrated time and again across a range of fields from the military (e.g., Gibson, 1986) to healthcare (e.g., Jorland, Weisz & Opinel, 2005) and education (e.g., Taubman, 2009), the use of statistics as part of accountability mechanisms almost inevitably leads to efforts to maximise statistical achievements in unanticipated ways. Describing the early use of statistics in early nineteenth century asylums for the "insane", Porter (2012) describes that authorities would have almost been "irresponsible" if they had not done "all they could to improve these statistics" (p. 586). Even these early statistics that were used for comparison of public health institutions led to a range of local practices aimed at improving statistics from discharging and readmitting the same patients repeatedly (sometimes up to 50 times) to improve statistics to transferring patients from institutions just before they died in order to reduce mortality (Porter, 2012). These accounts are remarkably similar to accounts of quantified populations in modern health institutions. For example, Stobart (2008) describes how an English hospital asked a local bus company to move its bus stop so that patients would have to walk some distance to hospital, thus staggering patient arrivals, and enabling the hospital to reduce wait times and meet key performance indicators. Rankin and Campbell's (2006) institutional ethnographic work exposes the use of fictitious hospital beds in the Canadian hospital system as a means of improving hospital statistics. In other words, evidence exists across a range of fields and over more than a century in which the use of numbers as a form of accountability is clearly linked to local practices in which work is directed towards improving numbers.

The final three points prescribed by ACARA (above – 2.3.4-6) focus on dishonesty and attempts to gain "unfair advantage" in what is essentially a reference

to teacher and student cheating. The phenomenon of "cheating teachers" has emerged in the media in Australia (e.g., Calligeros, 2014) and internationally. For example, in the U.S., 11 teachers in Atlanta were recently found guilty of tampering with student test scores, convicted of racketeering, and sentenced to jail sentences of between six months and 20 years (Jarvie, 2015). However, as various researchers such as Ball (2003) in the U.K. and Thompson and Cook (2012) in Australia have described, the phenomenon of cheating is a regrettable, yet somewhat predictable response to performative pressures.

Perhaps unsurprisingly then, there have been ongoing concerns since NAPLAN's inception around what was perceived to be excessive test preparation. In response, in 2014, ACARA's response was a "major crackdown" (McDougall, 2014) on coaching students for NAPLAN by refusing to announce the generic structure of the written test in advance of the test, rather identifying two possible generic structures: persuasive and narrative. Porter (2012) has argued that this kind of attempt to close the loopholes and ambiguities that allow stakeholders to exploit systems is essentially futile. Nevertheless, in Section 7 (p. 17) of the Principal Handbook (ACARA, 2015a), schools are advised that:

> NAPLAN tests are intended to complement the existing range of school-based assessments. It is important that teachers ensure that students, while taking the NAPLAN tests seriously, are not overwhelmed by the experience. Students should be familiar with test format and response types but excessive practice is not recommended.
>
> 7.1 Practice for the NAPLAN Writing test
> 7.1.1 It is appropriate for students to gain experience in producing writing scripts under timed test conditions using practice topics.
> 7.1.2 It is not appropriate for teachers to instruct students in the preparation of a common script for the purpose of reproducing it during the test. Where scripts from students at the same school are found to have significant commonalities such that they could be considered to be pre-prepared learned scripts, this may be considered a breach of protocol.
>
> 7.2 Practice for other NAPLAN tests
> 7.2.1 It is appropriate for students, particularly students participating in the NAPLAN tests for the first time, to be made familiar with the format,

language, response types and time constraints of the Reading, Language conventions and Numeracy tests before they take the tests. Students should understand that they must complete the tests without communicating with other students and without teacher assistance (except where adjustments for students with disability are deemed necessary).

While providing students with unfair advantage is prohibited, some test practice is recommended. Although there is some interpretation of "unfair advantage" in the above points, there is an inherent dilemma for teachers and school leaders as they balance preparation of students in ways that will maximise results at the individual student, class and school level without providing so-called unfair advantage. The focus on unfair advantage appears to be not only on the avoidance of cheating, but also on what media commentators and academics commonly describe as teaching to the test. This practice is typically derided and framed in media accounts as being the isolated practice of individual teachers seeking unfair advantage (e.g., Barrett, 2014; Jensen, 2013). Since its inception, there has been repeated speculation in the media that teachers have responded to NAPLAN by excessive teaching to the test. For example, Jensen (2013) wrote that:

> Some critics claim that NAPLAN has resulted in widespread teaching to the test. We simply have to look at the NAPLAN results to realise this isn't true. Teaching to the test means that teachers prepare their students for NAPLAN by drilling them on multiple-choice tests and rote learning to get higher scores.

This view of what constitutes appropriate NAPLAN preparation assumes that direct preparation in the form of rote learning, skill and drill teaching and teaching test taking skills forms a significant portion of the work teachers undertake in preparation for NAPLAN. It also suggests that teachers who undertake excessive test preparation do so of their own volition, perhaps in an attempt to gain unfair advantage. In a tongue-in-cheek opinion piece published in *The Age*, school teacher Christopher Bantick (2014b), a school teacher from Melbourne declared himself "a NAPLAN cheat" in a confessional where he described how he cheats: "I am drilling them on their punctuation, homophones, paragraphing and syntax. Oh, I forgot to mention, we have had to suspend the teaching of Romeo and Juliet because NAPLAN is more important". Describing the tensions between the instructions from ACARA and the media not to over-prepare students, Bantick goes on to say that "through school

endorsed and encouraged NAPLAN swotting, I'm doing my job". Bantick's article demonstrates the kinds of frustrations experienced by embodied workers when locally-experienced social realities, textually-coordinated by locally enacted "school endorsed and encouraged" policies are ignored.

In a piece published on June 16 2014 in *The Age*, Rob Randall, Chief Executive said that:

> I think taking several hours over a few days, four times in a student's schooling, to gather national data on student performance in literacy and numeracy is a good use of time. We saw some of the usual headlines about NAPLAN, as we do every year – about pre-test nerves, over-preparation, drilling for NAPLAN and claims that NAPLAN narrows the curriculum. Recently there was a report issued debating the usefulness of NAPLAN. The conclusions in the report appeared to be headline-seeking rather than reflecting the data collected during the research. (June, 16, 2014).

Although Randall does not name the headline-seeking report which he repudiates, the Australian Senate's "Effectiveness of the National Assessment Program – Literacy and Numeracy" report (2014) was issued on 27 March 2014, less than three months before Randall's article was published. The Senate report reviewed 93 submissions and reported on many of the practices rejected by Randall. Randall's dismissal of claims that teachers' engage in practices such as over-preparation and teaching to the test appear to presume that either these practices do not occur, are unhelpful (e.g., Randall in Barrett, 2014) or that they are the response of individual teachers who perhaps ignore the directives in the Code of Conduct as a means of providing their students with unfair advantage. This view also presumes that the entirety of teachers' work on NAPLAN occurs within "several hours over a few days".

As will be explored throughout this thesis, my exploration of teachers' work at both North Bank Primary and East Side High indicates that rather, NAPLAN data operates as a ruling text that is linked to textually-mediated institutional circuits that dramatically reorganise teachers' time and work practices. This discursive insistence that teachers' work is only altered by NAPLAN for approximately three days is evident in media reports and institutional texts such as the Code of Conduct. The unique affordance of institutional ethnographic research in evaluating this claim is

through mapping the operation of hierarchies of related texts, rather than relying exclusively on single documents such as the Code of Conduct.

Certainly teachers at both schools did describe direct test preparation, particularly in the early years of schooling when children were new to test taking. Two teachers from North Bank Primary said that:

- The Year 2s will do the reading [practice test] and [the Year 3s] did maths [practice test] last year [when they were in Year 2]. So they did that last year just to go, ok, where are they at? What do we need to focus on when they come to us. So that we have an idea. And we start to work on those problems.
- Yeah, we do spend a lot of time doing practice ones and things like that. Since [Year 3] is the first one, it is about getting them used to how to answer questions even more than the content. How do you answer a question that has four choices? We look at it that way.

It is difficult to discern if these kinds of responses are what ACARA would describe as adequate test preparation. For example, although the Principal's Handbook (2015a) states that it is appropriate for students to gain experience in test taking, particularly in Year 3, it is unknown if it would be deemed appropriate that this test preparation should occur in the year preceding NAPLAN testing (e.g., in Year 2). Should teachers use students' practice tests as a guide for how to teach test taking skills, or might this be considered excessive test preparation? Should student responses on NAPLAN practice tests be used to alter curriculum choices as teachers examine data and "start to work on these problems"? In thinking about NAPLAN practice, teachers were already discursively forming students and student learning in the early years of schools as a "problem" to be solved.

The difficulties of test preparation and students' performance on test day were an issue at both North Bank and East Side. At North Bank, one teacher reported that:

Trish: There is a lot of pressure put on teachers, and I …. I just… I feel for [other teachers] if they have got a class year level that is doing NAPLAN because it brings… the amount of training. I don't really know about this school… but the amount of training some classes do…. Really… when are you teaching? Because it is just NAPLAN... NAPLAN.

> Nerida: Are you talking about training kids?
>
> Trish: Yeah. To colour in the circle box. And it's just… I have had a look at a test and the test isn't about colouring dots or the right answer. It is being able to read the question from that comprehension task and put it into the right section. It is more of a visual tracking task. And some kids in Year 3 haven't got that ability developed as yet. I mean, I saw a child… because I have had Year 3 in the past somewhere else… and he was answering the questions for a particular comprehension task. But he was on the wrong page. So, you know, what does that say about reading the title? And I couldn't say anything. I really couldn't say anything. And that is going to influence what he achieves in NAPLAN.

Trish's concern about how well students could be prepared for NAPLAN even with what she perceived to an excessive focus on NAPLAN led to a perception that students needed to be given multiple opportunities to practice test-taking skills. Trish's concern that she "couldn't say anything" when a child she supervised recorded answers on the wrong page also highlights how discursive repertoires make certain actions possible, while closing down others. The ordinary interchanges between Trish and her students on a day-to-day basis stand in contrast to what happened on test day. The discursive tensions and possibilities imposed by NAPLAN procedural texts became evident as Trish stressed that she "really couldn't" say anything. The formation of the good teacher being someone who doesn't provide undue assistance led Trish to adopt a subject position that seemed to violate her own beliefs about the credibility of the data being collected and her own position as a teacher. At East Side, the issue of what was possible for teachers on test day was also discussed:

> And when [students] are doing nothing [during NAPLAN testing], it reflects poorly on *me*. But I can't do anything about the kid sitting there doing nothing. Because it's not high stakes for them. Their parents may not care, and they may not care. But it is high stakes for the teacher and the school.

Here, the performative pressure to improve data (which is analysed further in Sections 4.5 and Chapters 5 and 6) does not override the textual authority in which teachers "can't do anything". The issue of what was possible during NAPLAN testing was discussed by a range of teachers at both schools who believed that in

many cases student performance didn't reflect student ability. Teachers' tacit knowledge about students' experiences of testing, gained through their embodied work with students in the classroom goes to the heart of teachers' concerns about test validity. In all cases, teachers' responded with a frustration that on NAPLAN test days, there was no possibility for intervention or interaction in the ways they normally would when teaching their students. This occurred even when the reason for students' purportedly poor performance was perceived to be due to a poorly worded NAPLAN question. In 2014, the NAPLAN writing task required students to respond to the prompt: "choose a rule or law that you think needs to change". Although teachers at both schools believed this question to be challenging, it was particularly concerning for Year 3 teachers who felt that the question didn't reflect students' abilities to produce a written, persuasive text:

> You know, there is only so much they can write in half an hour. And, did you hear about the one we had for this year? *(Nerida: yes).* It was very difficult. They could answer the question, but it was coming up with three good reasons why that needed to be changed. When I was walking around I could see that they were answering with one good reason. But thinking of three good reasons on why we should change a law is a very difficult one for Year 3s, who have a very limited knowledge of laws and rules in the first place…

Despite believing that the test was unable to produce valid results that measured what the test purports to measure (namely students' ability to construct a written, persuasive text that meets the pre-determined criteria specified in NAPLAN marking guides), teachers remained silent during testing. After following the administrative demands of testing, teachers and principals are required to follow the National Protocols for Test Administration (ACARA, 2015c) which sets out strict security measures including that:

> 8.9.3   Schools must not copy, transcribe or transmit student responses or cause responses to be recorded except as outlined by these protocols. This prohibition includes photocopying completed test books and/or asking students to record their answers separately from their response book (except as may be required for their disability adjustment).

8.9.4   Under no circumstances should test administrators mark any test
         books or provide results to teachers, parents and/or students (p. 30).

The security protocols require that all test materials be sent to the local curriculum
authority within prescribed dates, and that teachers must not make any attempt to
copy or mark student work which means that teachers are unable to provide students
with any form on feedback as they would normally do after students sit in-class
assessment. Again, teachers described how these protocols contrasted with their
regular teaching practice:

> Justin: I think NAPLAN data… for the kids, for them, it's useless. The
>   feedback that they get comes so far after… it is useless. You're not
>   to give them any feedback on it within two weeks. There is a
>   blackout period.
>
> Nerida: Feedback for them in the two weeks after it?
>
> Justin: Yeah, after they've sat it. There is a blackout period after it where
>   you can't even discuss NAPLAN, in case some kid goes and tells
>   another kid who hasn't done it.

Here we see how changes in the day-to-day interactions between students and
teachers occur both during and after NAPLAN testing. Despite frustrations, teachers
at both schools made every effort to comply with the textual demands in the
NAPLAN protocols and administrative procedures. The use of institutional
ethnography as a sociological tool for understanding these kinds of experiences is
important because it refuses the "dual ontology that differentiates activities from
what goes on in individuals' heads" (Smith, 2008, p. 437). Events like the sitting of
NAPLAN that are glossed over in official accounts of testing (e.g., NAPLAN
handbooks) provide evidence of how teachers' subjectivities are coordinated by
official texts.

While teachers' work was interrupted for the better part of a week, with some
lingering effects (such as the directive not to provide students with any feedback
during the blackout period), for the teachers in this study, NAPLAN testing didn't
appear to be a major disruption in the school year. The more significant interruptions
become evident once we understand how NAPLAN data is translated into knowledge
and taken up in the textual chains that form ruling relations, orchestrating huge
amounts of teachers' time, as will be explored in Chapters 5 and 6.

In the following section, I map how NAPLAN data is assembled once students' tests leave the school, and how these numbers are taken up in discourse and rearticulated as objective facts about teachers and their work.

4.3   NAPLAN DATA IS ASSEMBLED AND TRANSLATED

4.3.1 Introduction

Tests such as NAPLAN are a technique of power because they "transform the economy of invisibility into the exercise of power" (Foucault, 1975/1995, p. 187). For Foucault, disciplinary power is exercised through invisibility, while simultaneously imposing visibility on its subjects (p. 187). It is at the point of reporting NAPLAN data, using interpretations grounded in discourse that subjects of the examinations are made into visible objects. However, as Lomell's (2011) analysis of almost two decades of crime statistics reveals, what is made visible is a result of the interpretation and "framing" (p. 193) of statistics, which is a product of the available discourses of the day. Lomell (2011) draws on the work of Latour to describe the process of interpreting statistics as a form of translation in that numbers must be "given a voice", and that these readings involve "both the translator and the translated" (p. 198). Latour (1987) described translation as "the interpretation given by the fact-builders of their interests and the people they enrol" (p. 108). His work (1997, 1998) provided a framework for understanding that the construction and establishment of scientific "facts" largely occurred through the process of translation, in which the meaning and purposes of facts were presented differently in order to meet the needs of both the translator of knowledge, as well as their audience.

Latour (1988) used Louis Pasteur's discoveries to elucidate how the acceptance of "scientific facts" relied more heavily on the social explanations constructed to explain the "facts" than scientific evidence itself. Latour (1987) proposed that networks of actors, from research colleagues to the media, take up statements, "much like in a game of rugby. If no player takes it up, it simply sits in the grass. To have it move again, you need an action, for someone to seize it and throw it" (p. 104).

This notion of complex networks of actors who work together to create facts sits neatly with institutional ethnographic concepts of "active and occurring texts" that are taken up and activated by real people in textual hierarchies. Similarly, NAPLAN statistical data is inert on its own. It is only when it is taken up, like in a game of

rugby, by key players, and imbued with meaning that facts are produced. At each stage of translation, meaning is read into data in ways that serve the interests of these various actors. Institutional ethnographic work examines textual hierarchies and chains (Smith, 2006a,) that unleash sequences of events as texts are activated. The analytic understanding of "translation" is therefore a useful additional conceptual tool for exploring how NAPLAN data is produced as a form of knowledge that is constructed and used by key players in the ruling apparatus. As Haggerty (2001) describes, numbers and statistics "cannot tell a story on their own, they must be given a voice by others" (p. 161). As in the case of Pasteur, these meanings are constructed to suit the ideological needs of the key players such as politicians, media outlets and policy makers.

In this section, I look to understand how NAPLAN data is assembled and translated into knowledge, and how students, teachers and schools are inscribed in these translations. I begin this work by mapping how NAPLAN data is produced, interpreted and reported once the tests are complete and dispatched from schools. In analysing various reports which present NAPLAN data to the public and to schools, I investigated how it was described and explained; what prominence statistical data was given; how it was displayed; what educational truths were insisted upon; how teachers were positioned by the translation of data; and whether reports about NAPLAN were preoccupied with certain aspects of the data. This work is important because it reveals the operation of what Foucault described as a "regime of veridiction" (1997a, p. 38) or truth telling. As Foucault (in an interview with Michael Bess, 1988) reminds us, "power is anything that tends to render immobile and untouchable those things that are offered to us as real, as true, as good" (p. 1).

Whilst this work draws on Foucault's (1969/2002) understanding of discourse as the unconscious structures that underlie the production of knowledge (p. 211), it also draws on institutional ethnographic understandings (e.g., Griffith & Smith, 2014; Smith & Turner, 2014) which recognise that texts are imbued with the ideological code that is central to the operation of ruling relations. An examination of the truths linked to NAPLAN data reveals the techniques of power that are related to NAPLAN data as a ruling text. In exploring how numbers are translated into knowledge I note that the goal of this work is not to categorise the interpretations of NAPLAN data as inherently good or bad; right or wrong. Instead, my aim is to understand how

particular truths are established, and how these truths position teachers and their work. In so doing, this analysis forms the starting point for uncovering the textually coordinated ruling relations that coordinate teachers' work.

4.3.2 Marking, assembly and reporting

Once the NAPLAN test period ends, student assessments are sent to various state curriculum authorities for marking. In Queensland, the QCAA has contracted edu-business Fuji Xerox Document Management Solutions (FJDMS) to print, distribute, mark and report on NAPLAN in a contract worth $4.8 million per annum (White, 2014). The marking is carried out in accordance with the marking guide distributed by ACARA (2014b). As described in Chapter 3, a complex set of contract networks involving ACARA and a number of edu-businesses such as FJDMS, Pearson and ACER exist that enable the production of NAPLAN data. Hogan's (2014) analysis reveals that out of nine stages of NAPLAN development (from test development through to trialing tests, printing, marking and analysis), all but one are undertaken by contracted edu-businesses. Hogan writes that "in 2012 the cost of these contracted services totalled $4,266,341" (p. 9). Once marked, NAPLAN data is returned to schools. Governments release NAPLAN data to schools via state curriculum and assessment agencies (such as QCAA in Queensland) as well as reporting the data directly to the public via *My School*, government reports and press releases. These reports are frequently picked up in the media.

In exploring how NAPLAN is translated, I follow the 2014 release of data. I acknowledge that the timeframes of release have been collapsed since 2014 following the Senate Review recommendations which included a faster turnaround of results (Australian Senate Education Employment and Workplace Relations Committee, 2014, p. vii).

In 2014, students sat NAPLAN testing on 13, 14 and 15 May. The first provisional reports were provided directly to schools in July via state reporting authorities. Although national data and comparisons were not available in July, the provisional data included student responses (marked as correct or incorrect), as well as further statistical information such as percentages correct for the class, school and state. The unavailability of national data meant the key indicators such as scaled scores and the banding of students (into achievement bands) were not yet available. In Queensland, numerical data was to be downloaded by principals and teachers

directly, accompanied by interpretations in newsletters and the like. For example, the QCAA July Newsletter (2014) included a section entitled, "interpreting the report" which stated that:

> For each question, the provisional class reports enable teachers to:
> - Investigate common error patterns;
> - Compare the overall performance of the class and state cohorts; and
> - Compare the performance of boys and girls within the class.
>
> Teachers then need to make a judgment about what their school data means for their classroom curriculum and pedagogy. They need to identify major curriculum or pedagogical questions that they can explore and test.

Although the numbers themselves are not explained directly, one aspect of the discursive work of translation is evident in the construction of data as being directly related to teachers' work. Teachers are instructed to understand student error patterns in order to understand their own work, for instance by "identify[ing] major curriculum or pedagogical questions...". In other words, the data is discursively formed as an *outcome* of teachers' work. Here, teachers are not only made visible, but also accountable for the data as an outcome. Although this connection between student achievement data and teachers' work is presented as a logical correlation, Lomell's (2011) analysis of crime reporting over time provides a useful comparison of how translations of statistics change. According to Lomell, until the 1990s, crime statistics were translated as *inputs* of policing that informed the distribution of resourcing and allocation of police (p. 198). In the 1990s, with the rise of new public management, they began to be translated as an *outcome* of policing, where police were now described as being "responsible" for crime rates (p. 200). This translation is unsurprising given the neoliberal direction of education policy in Australia for at least the preceding decade (see Chapter 3).

The links between data and teachers' work are foregrounded, obfuscating other factors that might have influenced the data such as the nature of the questions being asked; or, in the example described at North Bank (see above), whether a student was able to visually track questions and multiple choice response bubbles to be shaded. This interpretation of data locates teachers as active stakeholders who are called on to diagnose student errors as well as their own performance. Because teachers are positioned as active in this discourse, they can also be called on to activate the data

by "identifying major curriculum or pedagogical questions" and "explor[ing] and test[ing]" which presumably includes adjusting teaching practice before re-testing to ascertain if changed work practices have led to improved NAPLAN data. In other words, the process of remediation that follows data reporting is central to how teachers are discursively formed by the translation of data as outcome of teachers' work. As will be explicated through the remainder of the chapter, this performative work of improving data is now central to the operation of new public management and governance in schools.

A second aspect of this discursive work is the constitution of students as populations and subpopulations. Students are named as groups such as "class and state cohorts"; "boys and girls", rather than as individual students. The newsletter goes on to remind teachers that NAPLAN data can also be translated into a means of constituting and diagnosing entire student populations:

> When interpreting NAPLAN data, remember that each student answers relatively few questions but each question is answered by the full cohort of students. So, while the tests provide some information about individual performance, they provide more reliable data about how the cohort has performed on those items. This data can provide insights into learning sequences, trends in learning and school programs.

This practice of generating large-scale data in order to constitute a group of people as a population, in this case students, is part of a practice Foucault (1997b) describes as a form of biopower. Although Foucault (1997a) described the expansion of biopolitical change as occurring from the 18th Century, the rapidity of technological change has created mechanisms that have accelerated the ability for education departments and governments to collect numbers as a means constituting student and teacher populations for the purposes of their management. Thus, even in the translation of preliminary data it is clear that control is exerted over individuals (disciplinary power) and populations (regulatory power). This constitution of students as a population provides schools with opportunities to intervene and regulate at that level of generality. An investigation of the history of numbers reveals that in the late 1700s and early 1800s, numbers were generally thought to undermine professional decision-making, for example physicians were sceptical of "treatment by numbers" (Porter, 2012, p. 587). It was the growth in the constitution of

subpopulations, such as the "insane" that allowed public health institutions to flourish in the nineteenth century as a means of managing populations. As public institutions expanded, so too did the use of statistics as an accountability tool. Here, the construction of NAPLAN data as a mechanism for diagnosing and treating subpopulations by number (e.g., "boys and girls") is evident even in the release of preliminary data.

By August, aggregated NAPLAN data is issued to schools and to the public via the release of a national summary report, available on ACARA's NAP website (http://www.nap.edu.au/results-and-reports/national-reports.html). The national 2014 report begins with an introductory page that outlines the role of ACARA and NAPLAN. It states that:

> NAPLAN tests are the only Australian assessments that provide nationally comparable data on the performance of students in the vital areas of literacy and numeracy. This gives NAPLAN a unique role in providing robust data to inform and support improvements to teaching and learning practices in Australian schools (ACARA, 2014a, p. iv).

The NAPLAN data itself is organised into "grids of specification" (Foucault, 1969/2002, p. 42) that divide, classify and ultimately contrast the successful and the unsuccessful as visible populations. The remainder of the document provides graphs and tables that break down the data using various categories such as achievement by year level, state, gender, Indigeneity, language background (English or other than English), parental education and parental occupation. These categories are reported by geolocation (metropolitan, provincial, remote, very remote) and presented according to "bands" of achievement and percentages of students below, at or above National Minimum Standard (NMS). Although the report contains mostly numerical reporting with relatively little text, the choices of groupings and band scales that are used to rank groups of students enable comparisons that establish governmentalities such as the management of student populations. These comparisons and judgements also establish and foreground the versions of literacy and numeracy that are tested in NAPLAN as "vital" (p iv) curriculum areas. The central discursive work in this text is the creation of links between a particular version of literacy (that which is tested in NAPLAN), student populations and teachers' work.

The categorisations of students provided in the NAPLAN National Report were quickly picked up in the media with articles such as "More kids fail in maths and literacy" (Dodd, 2014), "Don't write off NAPLAN tests" (2014) and "NAPLAN passing test for better outcomes" (Dore, 2014) published in the week following the report's release. In 2014 there was also a string of articles that addressed the decline in student results on the writing domain, and were attributed to what was called, "a tough question" (Ferrari, 2014b), "a rogue question" (Livingston, 2014) and a "tricky question" (Stewart, 2014). In an editorial piece that appeared in *The Australian* (Don't write off NAPLAN tests, 2014), it was reported that:

> One rogue question aside, this year's NAPLAN results have again provided a clear snapshot of Australian students' achievements in literacy and numeracy. Unfortunately, results from the writing component of this year's tests have been skewed by a careless oversight, for which the Australian Curriculum Assessment and Reporting Authority has accepted responsibility. All students, from Year 3 to Year 9, were set the same task with the same prompts, which was to "choose a rule or law that you think needs to change" and convince the reader. Not surprisingly, Year 3 and Year 5 results fell sharply. But so did those of Year 9 students, who should have been up to the challenge… As always, the NAPLAN results highlighted weaknesses that need to be addressed through a concentration of resources and a stronger focus on "the basics'' in classrooms.

Here, NAPLAN results are (again) translated into an outcome of teachers' work with purported gains in student achievement linked to teachers' reorientation of their work towards basic skills literacy and numeracy. The concerns of teachers, such as the Year 3 teachers at North Bank Primary who believed the "rogue question" produced invalid data (see above, Section 4.3.2), are "put aside" and dismissed by the foregrounding of NAPLAN as an objective measure of student knowledge. In this way, it becomes possible to use NAPLAN data to diagnose purported weaknesses that can be remediated. As is the case in the majority of media articles and policy texts, this is achieved through what Apple (2006) describes as neoconservative moves that push for "traditional values" (p. 21), such as through suggesting that teachers reorient curriculum choices towards "the basics" that are tested in NAPLAN. The diagnose/remediate cycle operating in this text stands in contrast to the claim that the best preparation for NAPLAN is to teach the curriculum, as was

required in the Code of Conduct (ACARA, 2015a). Curriculum areas such as social sciences, the arts, and even sciences and literacy or numeracy that extend beyond the "the basics" are subjugated by the insistence that an ever greater focus on the content tested in NAPLAN is necessary.

The news article above also provides an example of the operation of biopolitical power that enables accountability and governmentality. Baroutsis' (2016) analysis of media reporting of NAPLAN argues that this kind of top-down reporting is far more common than reporting which constructs accountability from the perspective of the local. Baroutsis argues that "instead of holding governments to account, newspaper practices tend towards acts of surveillance that focus society's gaze on schools' performance" (p. 2). Hacking (1991) describes the use of statistics to form populations and create statistical norms that allow for the diagnosis of deviance as an "integral part of the modern state" (p. 183). Since the early use of statistics in the late 18th Century, the use of numbers to form populations has been linked to governance. Hacking's (1990) description of early statistician Adolphe Quetelet as having had a "fondness of numbers, and happy to jump to conclusions" (p. 106) is particularly interesting given Quetelet's role in developing statistical concepts and methodologies. Central to this work was his construction of the "average man" which did not refer to individuals, but to the construction of populations in which knowledge about the "average" would provide opportunities to "preserve or alter the average qualities" (Hacking, 1990, p. 108) of a population. In so doing, Quetelet was able to produce a fiction (since the "average man" doesn't really exist) that represents individuals in a society "more than any flesh-and-blood individual ever can" (Fleming & Porter, 2004).

Similarly, the use of bands and averages when constituting student populations are interpreted as if they were an "objective reflection of reality (Lomell, 2011, p. 192) rather than the construction of a "subjective world" (p. 192). For example, while the newspaper article that appeared in *The Australian* (see above) notes that "standards in reading, spelling, numeracy, grammar and punctuation have improved across all year levels since 2008, when the tests were introduced", the NAPLAN National Report (ACARA, 2014a) provides an alternate interpretation of the same statistical data. According to this report, from 2008 to 2014, there was no statistically significant difference between the means in any year level for numeracy; and no

statistically significant difference between the means for Year 7 and 9 reading. Years 3 and 5 mean scores had improved and were statistically significantly different from 2008 to 2015 (p. 258). Comparing these two texts, it is clear that as NAPLAN data is actively translated and given voice, translations can be "productive, or maybe even creative" (Lomell, 2011, p. 192). Despite these contradictions, the reading of meaning into numbers creates space for governance practices (Desrosières, 2011). The media's translation of NAPLAN data discursively constructs statistics as a proven and objective method for achieving improvement in student literacy and numeracy, because it holds teachers and schools to account. This translation of data-as-outcome also serves the interests of policy makers because it makes way for the use of purportedly neutral statistical data to create accountability mechanisms. The way in which policy makers activate and further translate NAPLAN data to establish accountability mechanisms is explored below.

The discursive insistence on translating data-as-outcome was also evident in the letter ACARA sent home to parents along with 2014 student reports (Randall, 2014a). This document informed parents that the NAPLAN "snapshot" report (see Figure 4.1) was intended as a tool for parents to make comparisons with students across the country:

> This [reporting] means you can compare your child's performance to children in the same year level. As with all tests, small differences between students' NAPLAN scores do not reflect real achievement differences. Using this information, you can then take the time to celebrate the success that you see and/or identify areas for improvement. You should talk to your child's teacher about what you should do next if you see areas that need improvement.

Here, the normalising judgements that are made possible through the translation of NAPLAN data become even more evident. Parents are encouraged to draw their own conclusions about their child's performance in relation to student populations, and to celebrate success and to identify areas for improvement. The data that allows parents to make these judgments comes in the form of individual student reports. These reports, when they are sent home to parents via schools (in 2014 this occurred in September), compare the individual student results to the national average, broken down by NAPLAN bands, as well as the bottom 20% of students, the middle 60% of

students and the top 20% of students in each domain. A one-page excerpt of an individual student report is depicted in Figure 4.1.
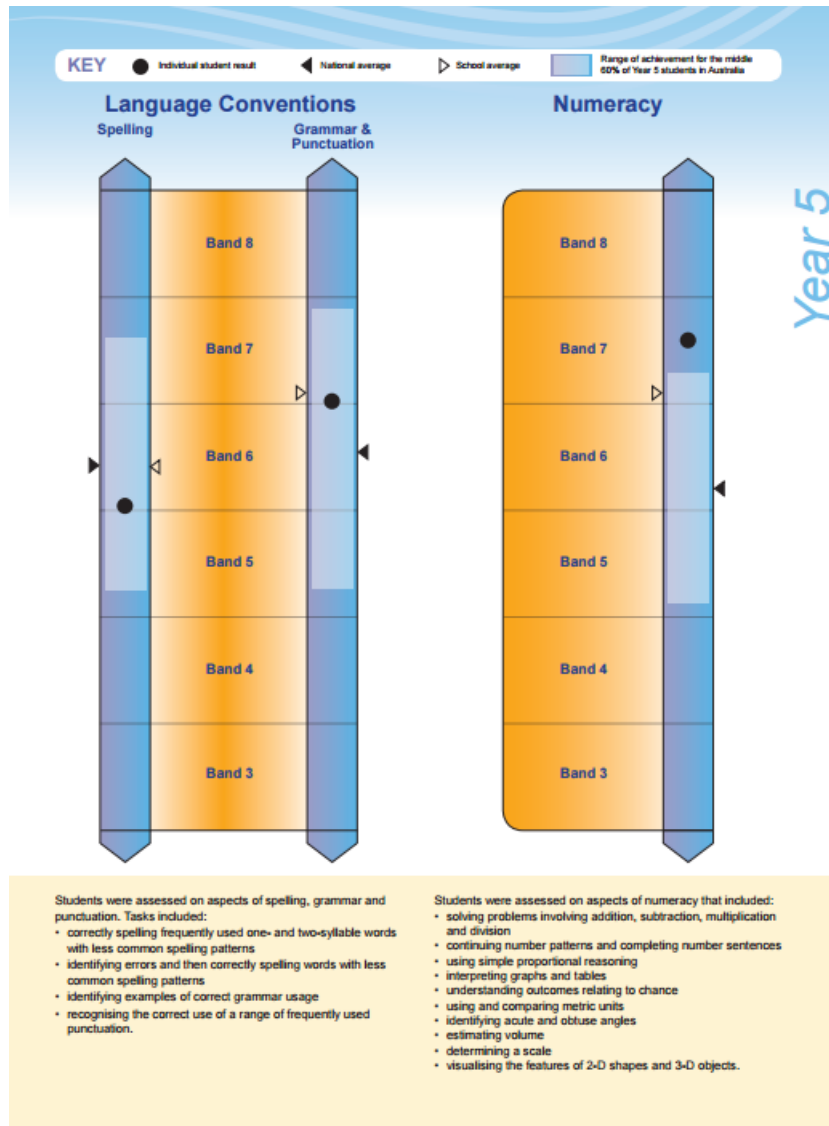
Figure 4.1 Extract of an individual student NAPLAN report

(http://www.nap.edu.au/verve/resources/2014ExampleYear5NAPLAN reportwithschoolaverage.pdf)

The visual depiction of the individual student in comparison to both the national mean and the school mean clearly provide students and parents with the opportunity to identify both deviation from the mean(s) and student deficiency. The results are also broken into six "bands" (per year level) with the bottom band indicating that students are below the NMS, and the second bottom band indicating that students are at the NMS. This is depicted in Figure 4.2 below.
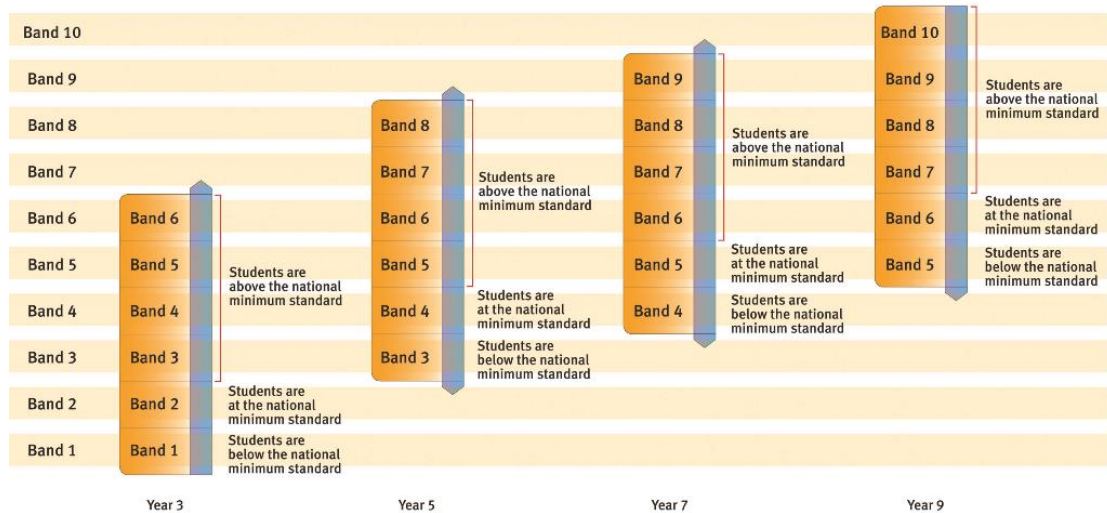
Figure 4.2 NAPLAN band scales and National Minimum Standards (NMS)

(http://www.nap.edu.au/results-and-reports/how-to-interpret/how-to-interpret.html)

The prominence given to individual achievement against the national and school mean allows students to locate themselves in the population. Returning to the letter sent home to parents to explain the report, it is also clear that the work of each child's classroom teacher is linked directly to student achievement. As such, as parents make sense of the report, they are advised that they can expect teachers to adjust their work program in order to meet the needs of the individual student and thereby assist the student in improving results on subsequent NAPLAN tests. This is interesting – and seemingly contradictory – given the NAPLAN instructions to teachers to simply teach the curriculum, and not to prepare students for NAPLAN in ways that might provide "unfair advantage" (see 4.2).

In the following section, I turn to explore how NAPLAN data is returned to schools, and how it becomes central to the operation of ruling relations through a complex series of policies and documents that draw on both the data itself and its translations.

4.4 NAPLAN IS FRONT AND CENTRE: POLICY MAKERS ACTIVATE THE TRANSLATION OF NAPLAN DATA

4.4.1 NAPLAN data as a policy driver

Rizvi and Lingard (2010) describe the use of numbers in education policy and practice as being central to the shift from government to governance. As Griffith and Smith (2014), Hursh (2015a) and others have explained, this shift is characterised by

the rise of new public management in which traditional forms of government (which had a focus on inputs such as funding) have been replaced by a focus on outputs and performance. Standardised testing regimes such as NAPLAN are therefore an important part of new public management processes that seek to hold teachers (and students) accountable for performance. This use of numbers as a policy driver is taken up in the way that the media reports on NAPLAN data as it is released to the public. An editorial in Queensland's largest newspaper, *The Courier Mail* summarised how the constitution of students as populations had enabled the state government to manage student performance:

> NAPLAN is of superb use at a state level, where in recent years Queensland
> has managed to lift its performance from near the bottom of the pack
> towards the centre – a process which takes time, especially given the 12-13
> year timeframe of most of schooling journeys. These improvements come
> because educators are able to do more than throw buckets of money and
> resources at a sector as a whole in a scattergun approach; they are able to
> target specific areas of need (Dore, 2014).

Interestingly, the comparison of states and territories provides an example of what Taubman (2009) describes as a statistical "contradiction in terms" (p. 29). As all states vie for improvement, and Queensland celebrates the movement from near "the bottom of the pack", it is a logical impossibility for all states to be at the top of the pack. There will always be states and territories at the bottom, and not every state or student can perform above the mean. The reporting of state based achievement is reflected in various government documents such as the Queensland Department of Education, Training and Employment (DETE) Annual Report (2013/14) and the Queensland's 2008 commissioned report into the state's first round of NAPLAN results (Masters, 2009). The link between NAPLAN data and teachers' work is made clear as the improvements are described as an outcome of educators' work: improvement is directly attributed to educators' work in "target[ting] specific areas of need".

To again highlight the discursive tensions for teachers, it is important to return to the Code of Conduct's (ACARA, 2015a) focus on ensuring teachers' work is guided by the curriculum and not NAPLAN demands; and to the criticisms levelled at teachers by the media (e.g., Jensen, 2013) that teachers shouldn't orient their

teaching towards the demands of NAPLAN. Despite the discursive positioning of teachers as technicians on NAPLAN testing days, the subsequent translation of NAPLAN as an outcome of teachers' work once data is released makes it clear that teachers are expected to respond to NAPLAN data. The translation of NAPLAN data into knowledge therefore not only creates literate and numerate subjects who are mapped against particular taxonomies (such as gender or geographical location), but also discursively positions NAPLAN data as an outcome of teachers' work.

Media reporting of NAPLAN data also occurs through textual chains via ACARA media releases, reports and the *My School* website which relies on marketisation logics. This use of statistics helps establish "winners and losers" in the education marketplace (Connell, 2013a, p. 106). Governments, the media, education bureaucracies and edu-business are increasingly using colour as an additional way to visually represent education success or failure. Over recent years the use of traffic light symbolism (green, amber and red) to account for performance has grown and has been documented as accounting for performance in fields as diverse as the nutritional values of food served in schools (Pettigrew, Pescud, & Donovan, 2012), public housing provision (Manochin et al., 2011), international aid programs (Kaufmann & Kraay, 2002) and nursing home care (Kerrison & Pollock, 2001). Figure 4.3 provides two examples of the use of traffic light symbolism in the Australian education landscape.

Image 1: Publicly available NAPLAN data visualised on *My School* website (screen capture from myschol.gov.au).

Image 2: Publicly available "snapshot" of individual school performance, using traffic light symbolism as required by GRG policy (Queensland Government, 2014a).

Figure 4.3 Representations of NAPLAN data using traffic light visualisation

The first image is a screen shot from *My School*, which depicts school achievement in each of the NAPLAN domains, using shades of green and red to compare school achievement against so-called "statistically similar schools" and the national mean. The second image is drawn from a Queensland government policy, the Great Results Guarantee, which requires schools to upload a "snapshot" using traffic light symbolism to represent achievement against numerical goals. Chapter 6 explores the implementation of the Great Results Guarantee. Manochin et al. (2011) describe the use of traffic light symbolism as a "visual mode of governmentality" because it provides a "way of thinking" about achievement and conduct in that it connects pre-established categories such as NAPLAN levels of achievement, and connects them with ideal or aspirational levels of performance (e.g., a school achieving above the national mean).

This system of visual representation is a form of data reduction that is central to what Porter (2012) describes as "thin prescription" (p. 595), or the act of making judgements, for example about school effectiveness, "by a few numbers, or ideally, one number". Smith (1987) describes the role of texts in contemporary ruling as producing objectified, subject-less accounts: "a mode of ruling has become dominant that involves a continual transcription of the local and particular activities of our lives into abstracted and generalised forms" (p. 3). The explanation for reducing achievement into numbers that are represented using colour-coded dots and squares is typically to ensure transparency. However this representation is removed from the everyday world in which they were created, and purport to represent.

4.4.2 "He didn't get in": Education data and school choice

This depiction of NAPLAN data as a neutral measure of schools able to be represented by a simplistic colour coded number is often accompanied by written explanations of competition and marketisation. For example, the *My School* front page (as at November 2015) encourages parents to use the data to "make informed decisions about their child's education". This ideologically infused discursive backdrop infiltrates schools as parents take up the opportunity to compare schools and actively engage as consumers in the education marketplace. At North Bank Primary, many teachers described how families were moving into the school catchment area – sometimes from outside of Australia – to access both North Bank Primary and the local secondary school, North Bank High. A number of teachers

suggested that parents, mostly from Asian countries including Korea and China, had looked at online student achievement data for both North Bank Primary and local high schools before migrating to Australia. According to the teachers' anecdotes, this data was the basis for families choosing to migrate specifically to North Bank from overseas. The publication of data, along with online discussions about how strong NAPLAN results demonstrated that North Bank was a "good school" able to provide clear pathways to university, was important for prospective international families as they made decisions about school choice prior to arriving in Australia.

This was also the case for local families because North Bank was operating under a school enrolment plan, which stated that the school must restrict enrolment to students who were able to prove residency within the catchment area (Queensland Government, 2016). As one teacher described it, "they wouldn't be doing that if the [NAPLAN] data wasn't good… So, I don't know what to say about it. Once you have data, it's very hard because it can be shared with others. And then it's out there for all to see".

At East Side High, the opposite situation was occurring, where poor NAPLAN data had led to declines in enrolments as parents were increasingly choosing to enrol their children at better-performing schools (including in the non-state school sectors) rather than the local primary school. The flow on effect was that having left East Side Primary, families were also now choosing not to enrol at East Side High. This turn of events was extremely concerning for the leadership team and was reorienting school priorities. The principal, Robert, explained:

> I mentioned our local feeder school [that is losing enrolments to non-government schools]. It was written up as having the worst NAPLAN results in the region. So we have to deal with those sorts of things…. So literacy and numeracy across the school is very significant.

Here, the performative pressures that are established by media and political reports on NAPLAN data that are publicly available become evident. At East Side, the principals' worries about NAPLAN improvement are directly linked to student numbers. As he described, part of "dealing with" the problem of declining enrolments was to refocus the attention of the leadership team and teachers on literacy and numeracy. Robert's description of events makes it evident that the public reports and translation of NAPLAN data had a twofold effect: firstly, they reoriented

Robert's attention towards improving NAPLAN data as a way of ensuring the school's viability in the local education marketplace; and secondly, they reoriented the attention of Robert and his colleagues (such as deputy-principals, heads of department and teachers) towards conservative curriculum choices (literacy and numeracy). Robert was cognisant that the way East Side Primary and High were positioned in the local education marketplace was important for himself as a school leader. However, as we will see in the following section, he was also keenly aware that the school's NAPLAN data was of great importance for his supervisors in the education department who sought to protect the reputations of their region and their state. The local consequence of marketisation is increasingly being documented in Australian academic research. Australian scholars such as Connell (2013a) and Kenway (2013) have described how the marketisation of education has led to a residualised layer in the education system where those who can afford to make choices, for example by moving into the catchment area of schools with good NAPLAN data such as North Bank Primary and High can do so; leaving schools like East Side Primary and High with a consequent loss in the student population.

The effects of marketisation and school choice has also been well documented internationally (e.g., Lubienski, 2013; Whitty & Power, 2000) and in Australia (e.g., Windle, 2015). André-Bechely's (2005) research investigating school choice in the U.S. makes visible the powerful links between school choice and both race and class. Her institutional ethnographic research explored the work that parents (predominately mothers) are required to undertake to access schools, from visiting and obtaining information about potential schools to networking with teachers and other parents and complying with school enrolment procedures. André-Bechely describes one parent as saying that, "I have done more research for my child to go to kindergarten than I did when I went to college" (p. 107). The amount of "choice work" required led André-Bechely to conclude, "those parents with more knowledge and more resources were gifted with access to good schools" (p. 130). Although parent choice was not the focus on this research, as described above, teachers' accounts indicate that at least some parents at North Bank undertook considerable "choice work". Family finances were a significant contributor in ensuring school choice; with the average house price at North Bank being almost double the city average. Similarly, André-Bechely (2005, p. 184) described that many parents in her

study were willing to "use any kind of advantage or privilege they had" (p. 184) to ensure their children had access to schools that would provide the greatest advantage possible. One of the teachers at North Bank Primary had recently experienced the effects of marketisation, as he attempted to gain access to the local secondary school for his own son, via a special entry "gifted and talented" extension programme:

> I actually had to pay for him to do the [entrance] test. His best mate was dux at his primary school…but academically, even *he* didn't get in. There was 4,000 kids there, for something like 400 places. Three quarters of some suburbs, and kids from all over the state were there. They were all there trying to get in…

This account of the work involved in attempting to gain access to the local secondary school highlights the kind of knowledge and financial privilege required to access school choice. Although neither his son nor his son's friend were accepted, the teacher was now keenly aware of the multiple efforts that parents were making to secure school choice. For example, the week of our discussion, he had received an email from the principal of a public school known as an "academy" for "brilliant students" who wanted to verify if a Year 6 student in his class had improved from a B to a B+ standard. Thomas believed the application was for the student to enter the academy in Year 10, highlighting the forward planning required by parents to access school choice. As André-Bechely (2005) describes, children whose parents have access to the most resources are almost inevitably reproducing privilege and advantage for their own families at the expense of others. A number of the teachers working at North Bank Primary confided that their finances were not sufficient to be able to live in the local catchment area, meaning that their children were also unlikely to be granted entry to the secondary school.

4.4.3 "Front and centre": Regional pressure to improve NAPLAN

While ACARA's Code of Conduct requires the avoidance of cheating behaviours (see Section 4.3 above) and establishes normativities around what it means to be a good principal or a good teacher, the interpretation of statistics creates alternate normativities about teachers' work using data as a measure or outcome that are not always aligned. While a good school or good teacher is constituted as one who does not provide unfair advantage to students, the translations of NAPLAN data make it clear that a good school and a good teacher are always able to improve NAPLAN

data. This discursive construction of schools and teachers was particularly important at East Side High, where the school's averaged NAPLAN data has frequently fallen into the categories of "below" or "substantially below" national average; and was publicly visible on *My School*. Here, understanding NAPLAN data as an "active and occurring text" (Nixon & Kerkham, 2014, p. 3) is useful, because as the data is released, it is not only read by parents and teachers in schools, but also by regional departmental staff and school principals. As the data was read and activated by departmental staff, it set off managerially authorised chains of events.

Teachers at both schools seemed to be aware that although they experienced a "push" to improve NAPLAN scores at the local level, that the imperative to improve NAPLAN data "came from above", as more than one teacher described it. Teachers at both schools commented that they felt sorry for their school principals who they imagined must have been subjected to pressures that were being exerted from beyond the school, and were driven by textually-coordinated accountability demands. A teacher at East Side said that:

> Well, schools are driven by results. Because results are the marketing tool. Results are the… they are how the school is observed. They are how the school is perceived and funded. I suppose if you are the boss, you are going to be very, **very** aware of data. All day, every day. But for quite different reasons than a teacher.

A deputy principal at East Side High said that:

> I mean, I can't speak from [the principal's] perspective, but I can only imagine that [NAPLAN data] would make for some very difficult discussions, if those headline indicators [performance measures] were mostly red. So things like attendance and NAPLAN and OP [tertiary education entrance scores], they are really how, from an external perspective, the department judges the school. And to a certain degree, how the public judges the school. But I think it's… that stress is more from a department side of things.

This view of things that "come from above" was corroborated by the six principals who participated in the ARC Linkage project (in which this research is situated). At various points throughout the three-year project, Robert (the principal at East Side) described the pressure he felt as NAPLAN data was translated into an outcome of

teaching labour, and as he felt pressured to respond to accountability demands. Robert described how his boss in the education department's regional office had activated NAPLAN data by requesting school principals to carefully consider which students should be withdrawn from NAPLAN testing. Robert explained in an interview with a project researcher, that:

> For instance, about 5 or 6 years ago, the NAPLAN data for here was pretty ordinary and one of my superiors advised me to pull out as many kids as I could, who I thought wouldn't be performing well on the test and I found that quite unethical that sort of comment and I haven't followed down that track but there is always that challenge of trying to get good results while acting in an ethical fashion, which is above board at all times.

Robert's contestation of how East Side's data might be improved might be considered a "refusal of neoliberalisation" (Ball, 2015b, p. 2). As Foucault (1982) wrote, "maybe the target nowadays is not to discover what we are, but to refuse what we are" (p. 785). This stance wasn't always easy given that nearby local schools had followed the directive from regional office:

> One of the simplest [dilemma's I have experienced] would be NAPLAN. I was told that the data needed to improve in – pardon me – in comparison to some other schools. Then when I looked at those other schools, we'd had something like over 90 per cent of our kids sit the test. Whereas the other schools, on their means, were certainly higher than us, but they had 60 per cent of their kids sitting the test.

Although Robert resisted the pressure to remove students as a strategy for improving the schools' mean scores, he was also acutely aware of why his colleagues at local schools would engage in these kinds of practices:

> Yes. and I think in some ways when you, I know I have referred a fair bit to NAPLAN but when you hear about improper practices by some principals who get into trouble for it, the pressure of getting an [improved] performance there is so hard… to get the right balance… and I haven't gone down the track that those people have, but at the same time I can understand them caving into that pressure.

The pressure being exerted on principals via regional departmental staff has been documented by Heffernan (2016), Bloxham, Ehrich and Iyer (2013, 2015) and

Bloxham (2013), whose doctoral research examines the work of assistant regional directors – school performance (ARD-SP) in Queensland. These roles were established in 2010 (Department of Education and Training, 2010), partly in response to the Masters Review (see Chapter 3) which analysed Queensland's poor performance in the inaugural (2008) round of NAPLAN testing and changed the discursive characterisation of school principals from school leaders to Chief Executive Officers (Bloxham, 2013, p. 19). The interim review also recommended practices such as the distribution of 2008 test materials among Year 3, 5 and 7 teachers (in early 2009) so that they could "[establish] students' current levels of literacy and numeracy development and to assist in identifying individual learning needs" (Masters, 2009, p. 5). The interim review became the basis for the statewide "Maximising Achievement Program" in 2009 which not only provided teachers with practice test materials but also mandated a compulsory practice testing regime for all state school students (DETE Annual Report, 2008-09). Here I draw attention to the discursive contradiction between not providing excessive test preparation (see Section 4.2) and this policy, which mandated additional test practice.

Bloxham's (2013) research documented the views of 18 assistant regional directors – school performance (ARD-SPs) who shared similar views about the importance of upholding principal accountability, with a focus on school improvement. According to one of the ARD-SP participants, various policy documents developed at the time, such as United in our Pursuit of Excellence (DETE, 2011), constituted the role of the principals as "instructional leaders" (p. 1) with an "unrelenting focus" on delivering an improvement in state wide performance on standardised measures. The policy stated that schools would receive a "differentiated model of principal supervision and support, informed by school context, achievement and improvement, to develop collective capacity and ensure consistent practice" (p. 2). The insistence on collective and consistent practice reveals how translocal monitoring and control can be achieved through replicability and standardisation. In order to achieve the goals of improving student achievement, the policy described that the "unrelenting focus on achievement" would occur "through alignment from the centre through the region to the school" (p. 1). It is perhaps unsurprising that Bloxham's (2013) ARD-SP participants described that the "core agenda" (p. 115) of their work was on the improvement of systemic data (in

particular, NAPLAN). For example, one ARD-SP described that when it comes to holding principals to account for school data, "good is not good enough… improvement is not negotiable…" (p. 115). As Singh, Thomas and Harris (2013) describe, the role of mid-level policy actors such as regional directors is crucial because their interpretation of policy occurs at the juncture between schools and official policies.

Given that United in the Pursuit of Excellence (2011) provided regions with the opportunity to differentiate supervision based on school achievement, NAPLAN data was extremely high-stakes for principals seeking to avoid unwanted performance management. The ARD-SPs in Bloxham's research reported that NAPLAN was the most significant tool for detecting principal underperformance, which ultimately led to regional intervention at the school level (2013, p. 188). Principals who led schools where performance was deemed to be poor were "most likely to meet with an ARD-SP approach that was adversarial" (p. 188). Bloxham's research reported that purportedly underperforming principals were at high risk of being removed from their schools in order to meet accountability demands. One of the ARD-SPs said that "the challenge of underperformance by somebody and how you manage that to a process where the person moves on when they haven't been able to meet their role" was significant (p. 129).

The ARC project team held a number of meetings with participating school principals over three years in which the potential removal and performance management of school principals at the hands of regional offices were discussed. The principals were highly aware that regions closely monitored school achievement data, in particular NAPLAN, which was discussed regularly. The ARD-SP's in Bloxham's (2013) study described these meetings as "performance conversations" (p. 125) in which both principal performance and school performance would be discussed. One ARD-SP said that "that's all we talk about" (p. 125) while another suggested the reason for performance conversations was because ARD-SPs were the "eyes and ears of the system" who were ensuring that "everybody [was] focussed in the same direction, everybody measured and focussed on improvement…" (p. 125).

Guiding the conversations between regions and principals was the close monitoring of school achievement data, in particular NAPLAN. A key document

used by ARD-SPs is the "School Performance Profile" which tracks systemic data in five areas:

- Engagement (e.g., enrolment and attendance data);

- Achievement (e.g., NAPLAN, A-E reporting data and senior schooling data);

- Confidence (as measured in school opinion surveys of staff, students and parents);

- Supplementary information (e.g., teaching and learning audit findings);

- Achievement & improvement measures against system targets (e.g., NAPLAN Mean Scale Score, Upper 2 Bands and NMS) (Bloxham, 2013, p. 117).

A two-page excerpt of a de-identified School Performance Profile is shown in Appendix A. Approximately 40% of data on the profile relates to NAPLAN (Heffernan, 2016). Further, although student achievement is the basis for measuring schools in two of the five categories (achievement; and achievement & improvement measures against system targets), the "supplementary information" sections also draw heavily on student achievement. For example, the Teaching and Learning Audit tool has a range of categories that assess schools according to data-driven performance improvement requirements. In addition, NAPLAN achievement also has a significant impact on other measures such as school enrolment data (see Section 4.4.2). The Performance Profile, as the key document coordinating relations between principals and ARDs was discussed repeatedly by school principals over the three years of the ARC project.

The ARC Linkage project provided opportunities for school principals, and deputy principals to come together a couple of times a year to participate in meetings over three years. The principals participating in the project were located in three of the seven departmental regions. The issue of close monitoring of systemic data and management from regional offices was discussed on a number of occasions. The principals participating in the project concurred that the School Performance Profile was central to the performance management of principals and schools. Although other data, such as school opinion survey results appeared on the profile, it was quite

clear that NAPLAN was the primary governing data. In the same way that *My School* provides the public with a colour coded system for measuring school performance as constituted by NAPLAN results, school principals and regional directors also drew on the colour coded Performance Profiles in their assessment of school performance. Once again, the traffic light symbolism of red was used to indicate when a school is performing below the regional target, with green indicating performance above the target. During a meeting in early 2014 one of the principals described that:

> We [have a goal to] improve NAPLAN outcomes to ensure that at least four strands each reach the 2014 national mean target. In our region, the regional director has an A3 spreadsheet… and some of my colleagues know all about this… and that's our performance. It's based on NAPLAN. [Pause]. That's it. [Pause]. Right…. So if you've got a red, no sorry, a white [coloured box] in each of the strands in Year 9 NAPLAN, then you are free. You are what they call a "free principal". You journey along, and you charter your own journey in your school. [Pause]. If you're… less than that…. Well then you're supervised with different levels of supervision. And unfortunately, our school moved from all red when I got there and we gradually got more whites, and then we had a major hiccup last year. So we are back to only one white now [in 2014]. So we are trying to readdress that for this year.

Principals were highly aware that regional processes and management of principals were closely linked to the colour coded spreadsheets that reported NAPLAN data against systemic targets. The idea that schools and principals were "freed" by the colour of their data suggests that the kinds of performance management described by the ARDs in Bloxham's study served as a form of governance by numbers which directed principals towards getting their schools out of "the red". Being subject to technologies of individuation, surveillance, differentiation and normalisation had changed principals' subjectivities. To draw on the principal's description of himself as "free", I note that Rose (1996) describes that "free subjects" (p. 79) who are unable to meet institutional demands, will be subject to "technologies of reformation… legitimated in terms of their truth or their efficacy rather than their morality" (p. 79). The "truths" about school and principal performance inscribed in the School Performance Profile had a powerful effect on principals' self-governance. During the discussion on regional management, one of the school principals even suggested that, "We've got a motto in our school that if NAPLAN's not blue

[statistically similar to the national mean], then you're in the poo!" which was met with a great deal of laughter, and agreement around the room.

As the ARDs in Bloxham's study described, NAPLAN data was central not only to the management of schools but also to principal performance management, thus making NAPLAN extremely high stakes for some. It is worth noting that the principal who made the above remark oversees an IPS school, which affords him greater autonomy from his regional office compared to his non-IPS colleagues because IPS principals' performance agreements are made directly with the director-general, rather than the ARD (Commonwealth of Australia and Queensland, 2013, p. 7). To demonstrate the translocal effects of the School Performance Profile and United in Our Pursuit of Excellence, I quote a school principal in a study undertaken by Heffernan (2016) who investigated the use of the Performance Profile as a mechanism of control to manage principals. One principal in her study described that NAPLAN is "politically everything" and that "[the data] profile is gold" (p. 387). With striking similarity to the school leaders in this study, principals in Heffernan's study were also well-aware that their jobs were linked to NAPLAN improvement; and that numerical improvement was highly valued by regional offices.

While media commentators, politicians and policy makers such as ACARA insist that teachers and principals must not orient their work towards NAPLAN (see Section 4.3), the discussion among school principals indicated that as regional and departmental staff activated NAPLAN data by exerting pressure on them to improve, they were left with little choice but to focus on NAPLAN.

Reflecting on the importance of working as an instructional leader who ensured that teaching was explicitly linked to NAPLAN improvement, one principal said that:

> If there isn't a deliberate connection [between teaching] with the outcome of NAPLAN then we have to manage that really, really well and I think I've said that before. As a leader I don't think we can get away from the accountability of that indicator. I don't know what it's like in any other regions, but it sure – it's front and centre in our region…. Then – I think I've also said this – there's this balance between the political and the educational. That's what I'm saying all along and I guess another comment.

This issue of balancing institutional and political demands to improve NAPLAN with alternate possibilities was discussed a number of times during ARC project meetings. In this case, the principal was in part referring to the work of a small group of teachers at her school who had sought to implement a new pedagogical approach that aimed to improve students' motivation to attempt extended written work, but that had not been linked to improving NAPLAN scores. The dilemma between regional and departmental priorities and local decision-making was difficult, and as was evident in this excerpt, almost unavoidably skewed towards the accountability demands that were "front and centre". She went on to say that:

> The same thing's in reading, if [teachers] look at the NAPLAN reading
> results and it's a Year 8 project… the Year 8, the Year 9 … my tension now
> is should we have started the project – and maybe this isn't what we
> should've been doing, we should be doing at the next session. But anyway,
> I'm sharing it with you now – should we have started the project with some
> requirements around EQ [Education Queensland]?

The difficulty here was that any efforts to change pedagogy that would not have a quick, direct or significant impact on NAPLAN were difficult for principals to justify. Although she acknowledged that the project had reinvigorated the enthusiasm of teachers in the English department who had volunteered to undertake the writing project, on reflection, running a program that wasn't explicitly linked to improvements in NAPLAN data was politically problematic.

By 2015, the Queensland Department of Education and Training published a Performance and Development Cascade (DET, 2014e) and a Key Performance Indicator Cascade (Department of Education, 2015) which sets out how key targets (such as the percentage of students: at or above the NMS; above the mean scale score; in the upper two bands; and achieving target gain score improvements) cascade from the strategic direction, or "centre" of the department, through the regions and into schools via principals and eventually to teachers. The Performance and Development Cascade (see Appendix B) provides a visual representation of how government priorities are textually linked to the local level, even going so far as to link the performance of school cleaners to the pursuit of government priorities.

Here, both government and the departmental "centre" have clearly articulated the pivotal role of regions in the coordination and management of school principals and

teachers' work. A 2015 advertisement for ARD-SPs (Job Reference: CO198047/15) demonstrates the extent to which regional directors are accountable for ensuring a strong focus on data in schools. The job role had a well-defined focus on the supervision of principals to ensure expected school performance measures are met.

I now provide an extended excerpt of a discussion between school leaders on the issue of political involvement in schools that was being exerted through regional offices. The meeting was attended by 15 school leaders (six principals, seven deputy-principals, one head of department and one head of curriculum) as well as eight university researchers. The excerpt begins with Robert, the principal of East Side High explaining the focus in his region:

Robert   It was set up as a goal that we would have our NAPLAN data as equal to the national mean – in all areas. And we've got basically three months to do it. If you like, a flying team is coming in [from the region] to support us in that endeavour. One of the parts of the project is called the 'unify' section, where those students in the upper two bands in NAPLAN have been given a program through the school of distance education online to try and address issues like critical thinking and so on. So it is really targeted to try and pick up the data across the board.

University researcher   Sorry, did I hear you correctly? Did you say that every school in your region has to be at or above national mean in all domains of NAPLAN?

Robert   Yes, that's right. *(Laughter amongst meeting participants).*

University researcher 1   Just think about that statement everybody.

University researcher 2   Everybody has to be above average…
                (Laughter)

Dan   In fairness to the ARD, I think it is an aspirational target *(Laughter).* I mean we've only just made blue at state, we're still red at national! We were just sort of thinking, 'oh great! We're at state average now!' But it does give some insight into the political pressure around the only bit of data that matters at a political level at the moment. It's NAPLAN. It is the only bit of measurable data across Australia, state to state. So this is an insight into the political agenda that is driven by the government around us being up there with Victoria. Let's be open and just state it quite clearly.

Robert	Yes, the political pressures are there. The political pressures are being pushed into the regions.
Dan	You can see it coming down through the DG [director-general], through the Deputy DGs and to regions. Through regional directors! I mean *(sounds exasperated),* it is just coming down through to schools!

The principals' repeated use of humour is worth noting. Kerr (2006) draws on Bakhtin's work to describe the use of humour as a "mockery mode" that can work to "dispel the tension and hierarchical control from above as a strategy for coping with the 'monologic' of official discourse" (p. 126). Nevertheless, the insistence on the goal of improving NAPLAN data until "it is at or above national mean" was widely understood by all school leadership teams as a political imperative being pushed through the regions. The school leaders recognised the illogicality of a goal in which all schools would perform "at or above" the national mean. Debbie, the principal at North Bank, a school which is consistently in either the "blue" or "green" zones sympathised with her colleagues and what she saw to be an absurd target, saying that "it might not make any sense, but that is a target! You're *supposed* to achieve it!"

The conversation continued amidst much laughter, with principals and deputies commenting on the irrationality of a system that ignores the social, geographic and economic realities and differences between schools from across the state. As one principal asked, "how can everyone be above average?"

Despite the belief that this goal was unrealistic for many schools ("we've only just made blue at state!"), the principals also understood that the regional demands to improve NAPLAN data were not negotiable. This was particularly difficult given that principals described having been given short timeframes in which they were expected to deliver the required improvements in NAPLAN data. At East Side High, Robert had been instructed by his regional office that he had three months to deliver improvements. He said that, "there may be a jump in the data, but I don't think the data is going to jump to that level…" In another region, a principal described similar sets of goals, and how leading a school with NAPLAN data that was "red" had unleashed chains of action from the region:

Eric	In our region, they call it a "slow boat" strategy and a "fast boat" strategy. So you have to have a slow boat strategy and a fast boat

strategy. So the fast boat, in our region that is also three months.
Right, and you are seeing that our regions [ARDS] are actually
intervening in our schools, and they are saying *(emphasises words)*
'you-will-do-this'. Like… 'you *will* do Reading 600 with your
Year 8 and 9 students', and without any extra resourcing. Because
you will meet whatever the regional benchmark is. *(Sounds
resigned)* and you just gotta do it. You know. Basically, as a leader
of *my school* – and this is what is also happening to a lot of my
colleagues [in my region] is that the ARD is actually going in and
saying, 'alright, well your data is not here. So I'm going to visit
you every two weeks. And I'm going to intervene. And this is what
is going to happen. And this is what the report back every two
weeks is going to be like.' That is the level of intervention that is
going on in our schools.

Neil   That is all based on gaining improvement against national average.
If you're not improving by at least 40 points from Years 7 to 9
across all categories, then it's not an improvement and you become
a red school in that category. And once you get more than three red
categories, you get managed.

Here the performative pressure exerted through departmental policies that authorised
regions to intervene and supervise "red" NAPLAN principals made principals feel
that NAPLAN was impossible to ignore. Again, I refer back to the political and
media discourses described in Section 4.3 that translated NAPLAN data as an
outcome of teachers who taught a robust curriculum. The insistence of policy makers
such as Rob Randall, Chief Executive of ACARA that "It's only a few hours across
three days at four points in a child's schooling" (cited in Ferrarri, 2014a) seem
difficult to justify given the significant level of intervention being described by the
principals above.

   Much of the talk above contained traces of institutional requirements, and thus
was textually-tied to a strong network of ruling relations that operated with
NAPLAN as a ruling text. For example, the "Reading 600" reference (above) is an
Education Queensland literacy and numeracy project that was delivered through
regional offices, with "regions choosing a specific area to focus on within their
improvement agenda" (Watt, Finger, Smart, & Banjer, 2014, p. 1) from 2011. The
reference to this project demonstrates the complexity of textual networks that link

NAPLAN data to the day-to-day goings on in schools. Project 600 is intimately linked to Queensland's goal to improve NAPLAN data, as evidenced by the assessments of the project made by Education Queensland's Performance Monitoring and Reporting Branch which reported that, "Project 600… significantly increased student results in [the South East Region] in the Year 5 NAPLAN Numeracy Test in 2013" as well as having "been successful in terms of NAPLAN data in other regions" (p, 7). Project 600 has since been rebadged in at least two regions and is now known as "Project U2B", in reference to goals of improving results of students in the "Upper 2 Bands" of NAPLAN. Similarly, the reference to the "unify section", in which "those students in the upper two bands in NAPLAN have been given a program through the school of distance education online" in an attempt to "pick up the data across the board" is part of the same group of online projects aimed at improving NAPLAN data. The regional push to improve performance of students in the upper two bands of NAPLAN is also linked to departmental Key Performance Indicators (KPI). The very first KPI on the Department of Education, Training and Employment (DETE) Annual Report 2013-14 (2014) referred to the "Proportion of students at or above the National Minimum Standard (NMS) and in the upper two bands (U2B) in reading, writing and numeracy" (p. 30).

The textually authorised pressure to improve NAPLAN data that was being exerted through the regions was present for all of the school principals. However, for principals from so-called "underperforming" schools this was especially concerning. Robert reflected on the stress he experienced given that the majority of students arrived at East Side High having attended a local primary school with particularly poor NAPLAN results:

> I was listening carefully about the discussion about NAPLAN before. I was – I had a session, like I regularly do, with another school principal from our biggest local feeder school yesterday and she said – acting principal – and she said to me Robert, how the hell are you getting such good data in Year 7 NAPLAN, in Year 9 NAPLAN? I said [Jill] I don't think we're getting good data. She said compared to us you're getting incredibly good data.
>
> I said well, we're working our rear ends off to get it up. It's nowhere near up to the level I want but the NAPLAN data for that school is down and going down. That's a challenge for us because that's our biggest feeder school and

we've got to work through that all the way. You talk about being below the national mean, they're way, way down below the national mean. That's one of my biggest challenges…

Here, the language of competition and marketisation that are endorsed and promulgated in media and government discourse is being experienced at the local level. Robert's matter-of-fact observation that his NAPLAN data were a result of people at the school "working [their] rear ends off" signifies that significant amounts of work that have occurred at the local level. At various junctures, each of the school leaders in the ARC project described the efforts they were making in response to demands from their regional offices, as well as to market pressures. The leaders acknowledged that the pressure was more intense for non-IPS schools, as leaders had fewer freedoms and were more accountable to regional offices. (For example, IPS school principals report directly to the director-general rather than a regional director.) As described in Chapter 2, both East Side and North Bank were IPS schools, while some other schools participating in the ARC research program were not. This interaction between a non-IPS principal and two IPS principals encapsulates the prioritisation of NAPLAN data as a ruling text through the regions and into the local school level:

Dan   Can I say… there is only one game in town!

Charles There is only one game in town, exactly!

Debbie   Yeah!

Dan   We've been told that quite clearly!

Charles Well their [ARDs] contracts are tied to it. We are supposed to guarantee….be guaranteeing NAPLAN results.

The requirement to "guarantee" results is analysed in detail in Chapter 5. However, in relation to the claim that ARDs contracts are "tied to" results, Bloxham (2013) has assembled a detailed analysis of the employment of ARD-SPs, bringing together a number of departmental policies and texts such as the Executive Capabilities Framework (Department of Education Training and the Arts, 2007), the Principal Supervision and Capability Development policy (Department of Education and Training, 2011), the Masters Report (Masters, 2009, 2010) and ARD-SP role descriptions, along with strategic planning documents to explain how central principal supervision is to ARD-SPs' employment. The focus on ensuring principals establish and meet quantified goals, and comply with reform agendas, left Bloxham

(2013) to conclude that "neoliberal philosophy and corporate managerialism [are] well-entrenched" (p. 56) and that the basis of ARD-SP employment was to "manage principal's performance specifically in relation to school performance and student achievement" (p. 57). Thus, these employment contracts could also be seen as being part of textual chains that form part of the relations of ruling.

In the following section, I document the responses that school leaders identified as they activated the requirements to improve NAPLAN data that came via regional offices and into their schools.

4.5   THE ONLY GAME IN TOWN: SCHOOL PRINCIPALS ACTIVATE NAPLAN DATA

As described above, the reporting of NAPLAN data aggregated at the school level was linked to chains of events in which school principals were held accountable for achieving departmental and state government improvement goals. Over the course of three years, school leaders described the kinds of initiatives they had authorised in their schools, many of which were what Apple (2004a) describes as neoconservative and neoliberal in that the primary focus was on responding to the call to improve data and "standards" in conservative curriculum areas (the literacy and numeracy domains measured by NAPLAN). As leaders talked, the prioritisation of data at the local level was striking. They repeatedly made comments that demonstrated the operation of this new, seemingly common-sense and "obvious" way of managing school activity:

- Key priorities are obviously to increase data in all areas… We need to prove that we can get the best possible data coming through at all times. (Principal of a secondary school located in a regional area).

- Our NAPLAN… what we want to see is a colour change up to green – from blue [at national mean] to green [above national mean], we're looking good. (Deputy principal of a primary school located in a metropolitan area).

In multiple meetings, principals and colleagues discussed the various decisions they had made that were intended to improve data in their individual schools. Commonly, these decisions authorised new activities and events that would reorganise teachers' work. Organising the actualities of teaching around data and accountability was part of the taken-for-granted discourse of schooling, with principals engaging in a shared language of data, and describing similar decisions at each of their local sites. For example, principals discussed "data grabs", "data discussions" and the need to

improve the "U2B kids", without the need to provide each other with clarification about what these terms or activities might entail. However, what is clear from the principals' discussion is that their work is profoundly related to the proliferation of texts that draw on and further promote quantification in schools. (These examples are explored below in further detail.) The local decisions principals authorised can broadly be grouped into the following categories:

- creating a school-wide focus on data and data improvement;

- mandating additional work in which teachers were required to collect additional literacy and numeracy data;

- mandating curriculum, pedagogy and assessment changes in the teaching of literacy and numeracy; and

- adjusting school structures around the goal of improving NAPLAN data.

In the following sub-sections, I examine each of these school-based reform agendas instituted by school leaders as they worked to meet accountability demands. These examples exemplify the translocal focus on data, and highlight the textually-mediated operation of ruling relations at the local level.

4.5.1 Data grabs, data cycles and data discussions: Developing a school-wide focus on improving data

Now that NAPLAN data was "front and centre" in "the only game in town" it is reasonably predictable that one of the first responses described by school leaders was the decision to mandate close examination of school NAPLAN data amongst school staff. Some schools had established so-called data teams, commonly comprised of school leaders (such as deputy-principals, heads of curriculum or heads of department, and literacy and numeracy coaches) to oversee this work. The focus of this work was typically on analysing and tracking data, as well as putting in place school-based processes that mandated teachers' use of NAPLAN data. In most cases, these local decisions were instances of leaders activating texts that were generated extralocally. Many of these strategies, such as the use of "data walls" and "data conversations" were linked to regional directives (e.g., see summary of regional responses outlined in the *Improving Literacy and Numeracy National Partnership Final Report*, Commonwealth of Australia, 2014) and departmental initiatives (such as the annual teacher performance management process implemented in 2014). The

intertextual links across regional, state and federal documents were extensive. For example, the annual teacher performance management process is linked to the Australian Professional Standards for Teachers (AITSL, 2011) which includes a standard that requires teachers to "assess, provide feedback and report on student learning" (Standard 5, p. 16). The annual performance management process also requires teachers' work to be "linked to the school's priorities" (Queensland Government, 2014d, p. 2). These priorities were influenced strongly by School Performance Profiles.

Triangulation of discussion amongst principals with documents such as the so-called Performance Cascade (see Appendix B) demonstrate how school level priorities are inextricably linked to government and departmental policy moves. Principals also described mandating new forms of work including formalised discussions with teachers about data; a focus on discussing data in staff meetings; and requiring teachers to collate and display data, sometimes publicly (for example in classrooms or staffrooms) and sometimes as a stimulus for discussion (e.g., in data conversations). Principals made comments such as:

- We are having teacher discussions about data. We are even having student discussions in classes; Student and teacher discussions about data and achievement…

- Certainly, we've had meetings to discuss data. The data profile and all that stuff is going on… We have really upped the ante about this…

- … the data wall is like a ladder where kids know where they sit on the ladder. And they can see when they move up. So it is like a visual representation of where they are at.

Principal decisions to enforce professional discussions and displays of data are made in a bureaucratic system which advocates the practices via a range of departmental policies and professional development series, such as one entitled "Building teacher capacity through professional learning conversations" (Tanner & Vains-Loy, 2009). Key departmental texts such as the data profile, which had been used by regional directors in the management of principals were now also being taken up and scrutinised in detail at the local school level and activated by principals who looked for ways of establishing links between local practice – chiefly teachers' work – and NAPLAN data. The inclusion of students in data conversations also crossed a new

boundary, positioning students as increasingly responsible for their own success/failure.

The use of data as a local form of surveillance allowed principals to make judgements about what had already occurred, as well as directing how they would allocate resourcing and direct future work. Foucault's insights (e.g., 1991) into governmentality and the operation of power through the formation of subjectivities are useful here. The way in which textually-mediated relations operated to not only coordinate local actualities but also local subjectivities can be seen in the responses of principals as they were subjected to the relations of ruling. However, principals also made decisions that coordinated teachers' subjectivities, for example by creating structures in which teachers were now to be held accountable for NAPLAN improvements, and thereby expected to become self-governing subjects in the pursuit of improved data. One principal described his belief that:

> Teachers owning the data… and knowing the teaching strategies that match
> with that data… is absolutely critical in this process.

The way in which these decisions and subjectivities were taken up and experienced by teachers is explored in Chapter 5. The impact of these kinds of performative pressures on students' subjectivities is identified in the final chapter as an area for urgent future research. Although beyond the scope of this research, I note that the phenomenon of discursively forming students as institutional subjects who must monitor and discipline themselves in the pursuit of improved data appeared across multiple sites, with students being asked to set and report on goals for improvement. For example, one principal said that:

> We've had [a] NAPLAN writing workshop. So we got the students' first
> piece of writing; and we got the teachers who had those classes, and we went
> through the NAPLAN writing criteria sheet. And now, somebody in our
> region… and also I have created a student version of that [criteria sheet] so it
> is more friendly to those students… to give students direct feedback. So I
> expect to see in their writing pads, their feedback from the criteria sheet and
> what they've done about it… what their student goal is.

The way in which this intense focus on data was experienced by teachers is taken up in the following two chapters.

4.5.2 Data cycles, NAPLAN practice and PAT: Mandating additional data collection

As principals activated NAPLAN data, and the complex set of texts in which it was embedded, they commonly mandated the production of additional, locally produced data. Principals described new requirements for teachers to collect supplementary literacy and numeracy data using commercially produced assessment tools. It is worth noting that many of these were produced by the same organisations as were involved in the cycle of NAPLAN test development and implementation. Again, the intertextual links that endorse particular forms of data over others meant that some forms of data appeared frequently across the six schools, most notably ACER's "Progressive Achievement Test" (PAT) series, which had been authorised and recommended for use in policies such as the National Partnerships – Literacy and Numeracy (COAG, 2012). As described in Chapter 3, ACER is an organisation with substantial involvement in the production, delivery and analysis of NAPLAN through contractual arrangements with ACARA. The decision to use PAT tests was mandated in Queensland's implementation plan for the National Partnership scheme. The 2011 National Partnership for Literacy and Numeracy (Commonwealth of Australia, 2011) reward measures were NAPLAN mandated measures (percentage of students at or above national minimum standard and mean scale score) and "local measures". Three of the four local measures used the PAT-R (Reading) assessment. The fourth assessment was Pearson's "Developmental Reading Assessment 2" (Commonwealth of Australia, 2011). The deeply enmeshed intertextuality of edu-business, government and departmental institutional texts that form ruling relations exists across many layers and is central to the similarity of decisions made by principals despite the vastly different local sites in which they worked and lived.

It is also worth noting that other researchers (e.g., Hardy, 2015a; Ward, 2012) who have explored the impact of NAPLAN at the school level have reported on the use of PAT tests in schools as an additional form of data collection. Hardy's (2015a) research describes a school in which a program of PAT data collection was mandated in all schools across the school's region in a bid to redress purportedly poor NAPLAN data. Similarly, five of the six school leadership teams in the ARC project described that PAT testing was mandated within their schools, for example saying:

- We are doing PAT [Progressive Achievement Tests] as a diagnostic. So teachers can see there is the starting point and there is the finish point… that's for Grades 8 and 9.
- So it was – the big thing we're pushing and the data that we're gathering is their comprehension ages. What is the level of their comprehension [as measured by PAT-Reading tests]?
- [Our] professional development also incorporated our data-driven accountability. We do PAT assessments. We've just begun doing that, which is a progressive assessment test through ACER. It's a standardised assessment. What our teachers have become really good at is collecting and collating data…

This additional data collection was intended to provide school leaders (and their supervisors) with additional information to diagnose problems, and to identify opportunities for remediation. While the mechanism of surveillance was described by Foucault (1975/1995) as being "inscribed at the heart of the practice of teaching" (p. 176), this additional requirement to conduct regular, timetabled and standardised tests that were centrally recorded was a relatively recent practice, tied to accountability demands and performance management. The principals' decisions meant that the frequency and depth with which examinations and testing operated allowed for not only students' literacy and numeracy knowledge to be recorded against standardised norms, but also for teachers' work to be observed and monitored. The principal who acknowledged that the requirement to collect additional data impacted on other local of activities, such as professional development opportunities, exemplifies the way in which texts enter into schools and reorganise teachers' work. As principals activated regional and departmental texts, their individual decisions authorised sequences of action to be carried out by teachers at the local level. For example, one principal reported in an update to his colleagues on school progress that, "so there's data grabs, so that everybody has got an opportunity to have two or three data grabs throughout the year". "Data grabs" are essentially processes in which short-term cycles of data collection and monitoring are undertaken on a continual basis. The way in which this kind of local decision unleashed massive changes to teachers' work is described in the following chapter.

In order to further map the translocal nature of ruling relations, an audit of school websites and annual reports from the two regions in which East Side and North Bank

were situated was conducted. It revealed that the so-called data grabs and collection of PAT test data referred to here are not isolated practices. Rather, the exercise of collecting student achievement data is frequently reported in school documents such as newsletters and annual reports. In some cases, schools acknowledge in their annual reports that these data grabs are used to meet the requirements of regional directors, for example in the generation of individual student data profiles. Data grabs were commonly reported as being undertaken in short temporal cycles (e.g., every four or five weeks) in order to ensure changes to data could be closely monitored. I note that in auditing school annual reports and funding reports from across two regions, I was unable to locate any schools that undertook data grabs in non-NAPLAN related areas.

A number of the principals in the ARC project had also mandated additional collection and analysis of NAPLAN practice tests and NAPLAN data. Recall that (despite being superseded as a policy) Queensland's 2009 "Maximising Achievement" policy had directed schools to undertake this work. Principals reported that:

- We also have so-called NAPLAN practice tests where we're using points-in-time data check-ins just throughout the process between arriving – Year 7 and Year 8 – right through to… we may do a NAPLAN test in Year 9. We're using that data as a point in time feedback. One of the examples is in the numeracy area. We've gone from not doing too well to an outstanding achievement in this last round of NAPLAN.
- We are using item analysis from their NAPLAN results…. Our literacy coordinator has sat down with every Year 8 and 9 teacher and is working through a plan. It is either a two or four-week data cycle. So we want to give ownership to teachers around that cycle. But it is based on item analysis.

The principals' insistence on the need to collect and display further data in each of their local sites demonstrates the power of complex ruling relations, and the way in which the work that occurs in schools is coordinated from beyond the local. In the following chapter, I explore how the activation of regional and departmental texts that ultimately led principals to mandate additional data collection had a significant impact on the organisation of teachers' work. This is perhaps unsurprising when we

consider the final comment (above) that teachers in one school were required to operate on a two or four-week cycle of teaching based on NAPLAN results.

4.5.3 Mandating "high yield" literacy (and numeracy) pedagogies

The regional response to NAPLAN data, which repositioned school principals into chief executive officers and instructional leaders with a "fast boat strategy" led principals to refocus school curriculum and tighten pedagogical controls in order to meet accountability demands. They made frequent comments about the need to focus on literacy and numeracy, particularly in the NAPLAN and pre-NAPLAN year levels. For example, one principal described that, "we need to be really pushing these high yield pedagogical strategies". As they elaborated on the decisions they had made and enacted in their bid to make the short-term gains that were expected (see Section 4.4 above), it became clear that many of the local level strategies altered the management of teachers' pedagogic work. In many cases, the principals made explicit links to NAPLAN when describing these local decisions:

- We have a numeracy coordinator as well. And we expect every maths class in Year 8 and Year 9 to have the first 15 minutes around NAPLAN style questions. Now the challenge we have, is that we asked the teachers the other day… are we really extending the kids in the upper two or three bands? So that is the challenge we have. So the focus in those classes isn't just getting kids to do NAPLAN questions, but getting the teacher to teach how to handle it; how to get a plan of attack; how would you go through and analyse that question? It's not just practice.
- NAPLAN is there. It's high stakes and so if it's reading comprehension and we teach them how to comprehend, then they will learn and that will go across all the year levels.
- Our English head of department is starting to unpack how much literacy is in the numeracy test. We [the group of principals] just had a conversation about that [during a meeting break]. He's helping students and helping teachers to unpack those NAPLAN style questions. So now they have a toolkit to help them with NAPLAN tests.

At each of the schools, the links between NAPLAN data, school-based data that is oriented towards NAPLAN, and the focus on literacy and numeracy instruction provide a focus at each local site that is undeniably shaped by NAPLAN. As principals interpreted and activated their NAPLAN data they established processes

that would ensure local action was oriented towards accountability demands. This included mandating particular teaching practices such as teaching vocabulary development, explicit teaching of NAPLAN style questions, reading comprehension and the literacy required to complete NAPLAN numeracy tests. Here I draw attention to Foucault's (1975/1995) description of power as neither inherently positive nor negative, but rather as an "important and tangled phenomenon" (1988, p. 12) that can lead to both positive and negative outcomes. As the principals themselves noted during one discussion about NAPLAN, despite their concerns about the powerful imperatives requiring them to reorganise their schools around data, many of the outcomes were positive and aligned with their own personal beliefs as educators. As one principal, Simon, described it, mandating curriculum and pedagogy that was focussed around ensuring all students acquired basic literacy and numeracy skills was "a moral imperative… not just because some clown is telling us we have to be above average". Dan also acknowledged that NAPLAN had led to a renewed focus on literacy and numeracy teaching within his school. A key concern amongst principals was expressed by Robert, the principal of East Side High who explained that his actions in directing teaching and learning towards literacy and numeracy was being done "for the overall good for the long term. But we are *expected* to have a blip in our data". Hardy (2013a) has described the "interplay" (p. 17) between how educators seek to balance performative accountability demands with their own personal beliefs about teaching and learning as relying on a "logic of appropriation" (p. 16).

The need to achieve rapid improvements in NAPLAN data also led the principals to authorise new forms of work in which literacy and numeracy coordinators were employed to "crunch numbers" and to work directly with teachers to coach and prescribe curriculum, pedagogy and assessment choices. Classroom time was organised around NAPLAN in terms of curriculum (e.g., with time dedicated to the explicit teaching of NAPLAN style questions and content), pedagogy (e.g., "matching teaching strategies with data" and using "high yield strategies") and assessment (e.g. the use of the NAPLAN writing criteria sheet to assess student writing). As principals talked, it was evident that these local processes were formalised in written plans such as school assessment calendars, data tracking spreadsheets, pedagogical frameworks and the like. Again, the intertextual links

driving these local decisions illustrate the translocal power of the ruling apparatus because of the consistency with which principals prioritised the literacy and numeracy measured in NAPLAN. For example, all schools in Queensland are required to produce a "pedagogical framework" (DET, 2014d) which outlines how curriculum, pedagogy and assessment should be linked to evidence and in which "agreed data [is] used to tailor learning pathways and target resources" (p. 1). To draw attention to the complex series of texts that are oriented toward NAPLAN data, I pick up on the statement above that schools should look toward "high yield" pedagogical strategies. Below is an excerpt from an email sent to me by a teacher who was considering applying for a master teacher position in 2014 (to commence in 2015). Master teacher positions were allocated to schools across Queensland according to 2014 NAPLAN data. Positions were allocated to "schools where master teachers could make the greatest difference to literacy and numeracy outcomes" (DET, 2014b, p. 1). This email was written by a regional director, and had been forwarded to the teacher by a school principal:

> Dear Principals
>
> As you may have seen, recruitment for the Master Teachers initiative, Action 5 under Great teachers = Great results: A direct action plan for Queensland schools, has commenced.
>
> The goal of the State Schools Strategy 2014-2018 is that every student is succeeding. The work of master teachers will assist to ensure that this occurs. The role will focus on improving literacy and numeracy and will also build capacity through action research. In this way we can develop **high yield strategies for improvement with a strong evidence base.**
> Master teachers have been allocated to support improved literacy and numeracy outcomes in those schools where they can make the greatest difference. This decision has been informed by the latest data on student performance and gain, and in consideration of the full range of support currently provided to schools. I would ask you to encourage high performing teachers in your school or professional networks to consider applying. [My emphasis].

The links between policies and translocal doings as well traces of institutional capture are highlighted here. The principal above who refers to "high yield" teaching strategies did so in the context of departmental texts requiring him to do so. The

focus on student data, performance, high yield strategies and teachers' work also becomes clear in this email. Mandated decisions about curriculum, pedagogy and assessment that are authorised through texts such as pedagogical frameworks and then at the local level through school policies are central to the reorganisation of teachers' work. How these texts enter the lives of teachers is explored in the following chapter.

4.5.4 Directing resourcing and changing school structures

Finally, principals identified strategic decisions they had made in which school structures were reconfigured in an attempt to improve NAPLAN data. That is, aside from reorganising the structure of teachers' lessons by mandating particular curricular or pedagogic change (for example fifteen minute focussed literacy at the commencement of each maths class, as described above), principals made decisions to redirect resources towards the improvement of NAPLAN data. These local decisions were in addition to wider government, departmental and regional decisions that offered resourcing aimed at bringing about improvements to NAPLAN data. For example, Queensland's National Partnerships Literacy and Numeracy State Implementation Plan included the engagement of literacy and numeracy coaches across all sectors (public, catholic and independent schools) (Queensland Government, 2009b). The employment of literacy and numeracy coaches had also been tied to National Partnership reward funding, for example a 2012-13 reward funding milestone was to have placed 80 literacy and numeracy teaching coaches in in disadvantaged, Indigenous, rural/remote or "hard to staff" primary schools by December 2012 (p. 3).

One example of state-wide resource reallocation is the announcement (in 2014) of new "master teacher" positions to be funded across the state. Announcing the 300 new positions, the Queensland Government Minister for Education, Training and Employment said in a press release that:

> Rather than working directly with children in the classroom, master teachers will work with teachers to analyse student data, develop and implement new strategies and enhance teacher practice. They will help schools to embed literacy and numeracy learning across the curriculum, provide coaching and guidance for teachers in the classroom, and align teacher professional development with student needs. Approximately two thirds of master

teachers will be posted in primary schools, where they will have the important task of building strong literacy and numeracy foundations to help to boost student performance in the later years. Primary schools selected to host a master teacher will also receive a resource package of up to $75,000 over the next three years to support early literacy and numeracy learning (Langbroek, 2014).

In addition to state-wide policies such as this one, regions offered schools support and resourcing to participate in programs such as the "Success Program" project which provided schools in East Side High's region with resources and coaching support. According to East Side High principal, Robert, Success Schools were measured by improvements in NAPLAN data means and against external measures such as the NMS. According to Robert, having been selected as a "Success School" in the region had become integral to his current decision-making and to the future direction of the school. At East Side, this included having regional consultants in literacy and numeracy visit the school on a regular, fortnightly basis to work closely with heads of department and teaching staff to develop and implement pedagogical change based on Marzano and colleagues' (2008) "Art and Science of Teaching" approach.

As well as participating in regional initiatives, principals also responded to accountability pressures by making local decisions about the allocation of resources, time and school structures in their attempts to quickly improve NAPLAN data. To draw attention to the translocal operation of ruling relations, I provide examples of how the allocation of resources was authorised through the use of school calendars and timetables in a number of schools:

- Our literacy coach isn't on class. She only has one class. Her role is in terms of NAPLAN.
- So as a result of [our NAPLAN data and discussions with the region] we've – in our timetable we actually have extension classes now for literacy and numeracy.
- So we've done a timetabling restructure… we've incorporated bolt-on junior 8 and 9 literacy and numeracy extension classes. That is one 70-minute extension class per week. And they are actually targeted to… so we've got three groups who are at the higher [NAPLAN] bandings… and it goes down to the learning support team who are involved in those

groups where we might only have nine students who are working on skill development. So they are learning how to spell; learning how to punctuate; and learning grammar. That's what they're doing. The good kids are doing daily writing and we are using a writing matrix as feedback.

These decisions – described by three different principals – demonstrate how additional teachers, teacher-aides and specialist teachers were being allocated to undertake work in areas that would be most likely to lead to NAPLAN improvement. In order to maximise NAPLAN performance, principals often combined the deployment of NAPLAN specialists such as literacy coaches to perform particular aspects of work, leaving teachers more time to focus on other means that principals believed would improve NAPLAN data. Schools funded roles such as "literacy coaches" to work with classroom teachers, primarily by assisting with additional data collection (as described in Section 4.5.2, above). For example, one principal said, "we've got a literacy coach who goes in and helps all faculties with their pre- and post-testing… and with pedagogy". The decision to deploy specialist staff in this way was often so that teachers could provide explicit teaching in NAPLAN related curriculum:

> For the practice tests, we are employing someone to do that. So that the time teachers are actually spending around NAPLAN is on improvement and not data gathering and crunching. So they'll get the results and then they'll be able to analyse that, and then plan for their teaching around that. Rather than be inputting data. That's an important point I think.

The notion of deploying teachers in this way was not questioned during meetings, but rather, was the kind of practice that was part of a regime of truth in which seeking data improvement was a common sense way of allocating time and resources. Another way in which school funds were directed towards NAPLAN improvement was by directing additional funded support to classes in NAPLAN year levels, with a focus on maximising achievement across targeted NAPLAN bands:

- The way those classes, particularly in Year 9, are arranged, is that we put on more teachers than we would normally need. So I think we've got 9 literacy extension classes. So there will be some classes with ten kids in them. Our upper classes have got upwards of 30 kids in them.

- In our Year 9 group some of our classes we've streamed a little bit, more than a little bit we've streamed, and [this teacher is] working with a low ability class…. So the problem there was spelling capabilities… A significant issue for that particular class.
- I can't remember how many years we did it for… we streamed the kids. And we had focussed writing groups. And we had everyone involved. ESL teachers, support teachers, so you know it was across everything. So for the Year 7 cohort, you'd have… like someone would have the more advanced kids and you would work our way down and… there were six different groups. And now the focus is on reading and you know… So you just see how that impacts on NAPLAN.

Here we see resourcing, mostly in the form of additional staffing, being allocated in direct response to accountability pressures. Principals were targeting additional time and expertise towards activities that would be most likely to boost NAPLAN data. In order to achieve this goal, particular attention was paid to the students who would be most likely to achieve the greatest positive impact on school NAPLAN data. These kinds of staffing and resourcing decisions are effectively a form of "educational triage" (Gillborn & Youdell, 2000, p. 133) in that resources are "rationed" in the same way as medical triage rations resources depending on the severity of each patients' medical condition. The focus on "U2B kids" diverts resourcing towards students who are most likely to boost school data and becomes the basis for how resources are allocated. As Nixon and Kerkham (2014) and Hardy (2013a) have described, the drive to produce improved NAPLAN data by maximising "returns of investment" is closely linked to accountability demands. To do so, principals often restructured classes by streaming students so that particular aspects of literacy could become a focus, for example, the "low ability class" was directed to work on spelling capabilities because they had been deemed to be a "significant issue". The decision to stream classes was also linked to how teachers were assigned to classes. These structural choices about resourcing did not go unnoticed by teachers. For example, a teacher at East Side explained that:

Theresa   [The leadership team] will look… and I've been in the room when I've had people say they…. Well, ideally you want trained English teachers on the junior school. Well on any class, but they can tell by the data that the trained English teachers are receiving better

marks [on NAPLAN] than the ones who aren't trained English
teachers, or who have a reputation for being not particularly
effective.

Nerida   So they are trying to put the more trained English teachers down
towards the NAPLAN year levels?

Theresa   They want good people on senior English, and they want good
people on the 8, 9 and 10. No, sorry, 8 and 9. It's the Grade 10 that
misses out. It's very… It's extremely high stakes. And then it goes
beyond what we do as a classroom, because it then goes to the
school level, where our school is judged, and Robert's [the school
principal] performance is judged on the NAPLAN results. Funding
is given according to the NAPLAN results.

As principals responded to the pressure to quickly improve the NAPLAN data on
their School Performance Profiles, it becomes apparent that school leaders directed
resources towards areas that they hoped might lead to the greatest NAPLAN
improvement. The rise of "U2B" as a category is case in point. Julie's observation
that "it's Year10 that misses out" is an indication that while these kinds of strategies
may result in improvements in NAPLAN data, outside of the NAPLAN years and
curriculum areas, something or someone else almost inevitably receives fewer
resources and less attention. What counts (improving NAPLAN data) is that which is
counted (in this case, Year 9 NAPLAN literacy). The complex series of institutional
texts that had made NAPLAN "the only game in town" meant that using the kinds of
strategies that would deliver short-term improvements in data was now a common
sense approach. The impact of these local policies on teachers' work is explored in
the following chapter.

4.5.5 Summary

An audit of more than 300 websites and annual reports from the regions in which
East Side High and North Bank Primary are located reveals that the kinds of
strategies described by principals in this section are far from unusual. School
newsletters and annual reports describe schools that undertake NAPLAN "blitz
days", data grabs, data conversations, "data stories" and NAPLAN practice days. The
similarity of responses from principals in vastly different schools – from large
regional secondary schools to a metropolitan primary school – demonstrate the
power of NAPLAN data as a ruling text. In this section, I have explored how

NAPLAN data is reinserted at the local level, and how it is activated as a ruling text by school principals and regional directors. In the following chapter, I begin to explore how the textually-coordinated sequence of decisions and events described in this chapter enters the work of teachers.

4.6   DISCUSSION

This chapter has disentangled the operation of ruling relations by exploring key institutional texts which coordinate what happens translocally. As Smith (2006) has described, in order to understand how people's work is coordinated at the local level, it is important to identify the key texts that are produced extralocally. The complex networks of texts that are generated at the federal, state, regional and local level but are oriented towards NAPLAN data are striking. However, these networks also draw on the truths that are generated as NAPLAN statistics are translated into knowledge about education, students and schools. They draw heavily on the translation of NAPLAN data as an outcome of teachers' work. Thus, NAPLAN data can be understood as an "exemplary regulatory text" (Parkinson & Stooke, 2012, p. 63) in that it enters into local sites via complex textually-coordinated ruling relations, changing what happens in schools. As these textual links are made visible, it is clear that the three days of NAPLAN testing are merely the tip of the iceberg in understanding how teachers' work is coordinated by NAPLAN data. The idealised versions of schools and teachers contained in the media and in official texts such as the NAPLAN Handbook construct an image of "good teachers" as those who do not over-prepare students for NAPLAN; but rather, who simply teach the prescribed curriculum.

In contrast, the accounts of principals presented in this chapter indicate that in their efforts to be "good principals", local work was heavily skewed towards improving NAPLAN data. Porter (2012) has equated the work required to produce and reproduce numbers as akin to a vaudevillian scene in which what occurs onstage in the form of objective and standardised numbers hides the comical and frenetic off-stage action that was required to allow the show to go on. According to Porter (2012), this is possible because those who produce numbers are "bound up with sober bureaucratic and professional rituals" while those outside of the production view the work as "dull and technical" (p. 597). For this reason, Porter argues that the work of researchers is to "reveal the comic dimensions of numbers by displaying,

beside the controlled action on stage, the offstage turmoil and disguises" (p. 597). Mary-Lee Smith and colleagues (2004) similarly used the metaphor of theatre to describe how education policies (such as NAPLAN) are developed and authorised through backstage goings-on (between politicians, policymakers, lobbyists and the like) while the on-stage action is carefully presented in the media in what the authors describe as a "political spectacle". In this chapter, I have aimed to reveal some of the "backstage" action that sets the stage for the orchestration of teachers' daily routines and work. The analysis in this chapter highlights the absurdity of the claims (described above) that NAPLAN reorganizes only three half days of schooling per year. As will be demonstrated in subsequent chapters, although teachers may not see themselves as directly teaching to the test, textually-coordinated ruling relations reorient both curricular and pedagogic choices towards NAPLAN in multiple ways.

The various attempts principals were making to refocus the key priorities of their schools by authorising subsequent local work might be expected given the sequence of events explained in previous sections. Because of the complex, interwoven nature of ruling relations, many of these decisions were made in response to texts or demands generated in regional offices or the education department, and adapted to local circumstances. As one principal described, despite the many discussions she had with her colleagues about the questionable value of large-scale testing, the accountabilities tied to NAPLAN made it impossible to avoid:

> Now, we can argue that we don't have to be accountable for NAPLAN and we can use other indicators of success… But one of the indicators of improvement [in Year 9 writing] in my head has to be NAPLAN, and the same with numeracy. If it's going to be high-end thinking in Year 9 it's got to be upper two bands.

In understanding discourse as "a conversation mediated by texts" (Smith, 1988, p. 214) we see the principal's activity and subjectivity as an accountable leader, as she responds to the accountabilities to which she is subjected. Curriculum and pedagogic decisions mandated by principals, in her words have "got to be" related to NAPLAN improvement. The translation and visibility of NAPLAN data imposed what Foucault (1975/1995) described as "disciplinary power" because "it is the fact of being constantly seen, or always being seen, that maintains the disciplined subject in his

subjections" (p. 187). The visibility of data in the education system drove principals to make local decisions that would subject teachers to similar accountabilities.

In this chapter I have examined the production of NAPLAN data, by exploring how student responses are marked and assembled into NAPLAN statistics, and the way that numbers are presented – what is foregrounded and what is left unsaid. However, these numbers were also read and interpreted, inscribing the beliefs and readings of the translator into knowledge. In prescribing and codifying how teachers should behave during the collection of NAPLAN data (via handbooks, codes of conduct and the like), there was a focus on minimising teaching to the test and the avoidance of cheating. Yet, as the principals' accounts in this chapter demonstrate, the stated preferred alternative of teaching the "prescribed curriculum" ignores the local realities that exist when NAPLAN data is located in sequences of texts that cascade down from the federal and state government levels through regional offices and into schools. It further disregards the subjectivities that are formed when NAPLAN is translated as an outcome of teachers' work. This is important given that NAPLAN scores were so often tied to departmental policies that established different levels of school and principal supervision. Again, the codified instruction to simply "teach the curriculum", ignores the social realities of life for principals who have been directed to guarantee that students meet or exceed statistical goals such as ensuring 100% of students exceed the national minimum standard, or increasing percentages of students score in the "upper two bands" of NAPLAN.

In the second half of the chapter, I drew on a range of institutional texts and research data from a group of six school leadership teams to unravel how principals activated NAPLAN data and associated institutional texts at the local level. The stipulation from school leadership teams that teachers must undertake additional work such as the production of additional local data was closely linked to regional, departmental and governmental drives to improve NAPLAN data. Although each principal made their own decisions and implemented their own sets of practices, the translocal power of NAPLAN and associated policies aimed at achieving NAPLAN improvement was evident as principals in multiple sites mandated the reorganisation of teachers' work, school resources and the production of even more literacy and numeracy data. In the following chapter, I explore how these decisions were experienced by teachers at East Side High and North Bank Primary.

Chapter 5: A life revolving around data: Institutional texts coordinating teachers' work

Since the industrial revolution, life has become increasingly timed (Adam, 1990, p. 104). For many years, teachers' work has been carefully orchestrated according to specific timetables and schedules. School days are still structured by daily timetables and bells; units of work are taught according to carefully timed weeks of work, with students and teachers "bound" by timed routines (Delamont & Galton, 2012, p. 138). In institutional ethnographic research, how teachers spend their time is important, as it forms the basis of their embodied experience. Although teachers' work has always been subject to temporal sequences, in this chapter, I explore how teachers' time is being reallocated and reoriented as school leaders read and activate NAPLAN data at their schools.

This chapter begins by examining how NAPLAN data, translated into knowledge, is returned to teachers. By this, I refer to the way in which both NAPLAN data, and its interpretations are reinserted back into schools, and into teachers' work. This occurs through various channels including the release of NAPLAN data directly back to schools from curriculum authorities; as well as via institutional texts and official reports that are simultaneously released to the public. In particular, I examine the discursive positioning of teachers' work in institutional texts. The chapter then moves to map how the institutional mandates described in the preceding chapter are taken up at the school level. Because many of the leadership decisions described in Chapter 4 led to the local production of school-based policies and processes, in this section of the chapter I explore how this assemblage of texts organises teachers' work. An example from each of the two schools is used to trace how teachers' work is coordinated by sequences of texts that form what Smith (2006b) describes as "institutional circuits" (p. 7).

Firstly, I follow an institutional circuit nested within a school "assessment calendar" instituted at North Bank Primary, which was central to the organisation of teachers' days and years. I then move to explore how a locally produced document

known as the "data differentiation placemat" was activated and with what effect at East Side High. I conclude this section by examining the work required at both schools to collect spelling data using a proprietary spelling program known as *Words Their Way* (Bear, Invernizzi, Templeton & Johnston, 2008). The purpose of this section is to elucidate how translocal ruling is achieved, since the collection of *Words Their Way* data was collected at both schools. This locally sanctioned form of data collection was experienced in similar ways by teachers at both schools, despite their socio-economic and geographic diversity.

The chapter then moves to explicate more broadly how the decisions described in the preceding chapter required teachers to undertake various forms of work, and shaped teachers' subjectivities. The decisions described by the six leadership teams (see Chapter 4) included creating a school-wide focus on data; mandating additional literacy and numeracy data collection at the local level; mandating curriculum, assessment and pedagogic changes to literacy and numeracy teaching; and adjusting school structures in order to achieve NAPLAN improvements. At both schools, this included requirements for teachers to produce and respond to additional texts and data, as well as participating in associated work such as "data conversations" and meetings in which data becomes the significant organiser of the social. Together, these local school policies required teachers at both schools to reorient existing aspects of their work, for example by ensuring that teaching time was focussed on the literacy and numeracy demands tested in NAPLAN, as well as requiring teachers to undertake additional work such as collecting, recording and talking about data.

The aim of the chapter is to reveal the textually-mediated coordination of social relations and teachers' work. By unravelling how teachers are mobilised to allocate their time and change their practices in particular ways through a series of textual demands, the operation of ruling relations again comes into view. In this chapter, I again draw on the understanding that texts are both "active and occurring" (Nixon & Kerkham, 2014) because how texts are read and activated by teachers and school leaders is central to the courses of action that follow. The texts that reinsert NAPLAN data back into teachers' work are thus part of "the bridge between the everyday/everynight local actualities of our living and the ruling relations" (Smith, 1999, p. 7). This chapter therefore establishes how teachers' work at two schools is reorganised by the ruling apparatus' ideological commitment to quantification.

5.1 NAPLAN NUMBERS AND TRANSLATIONS ARE RETURNED TO TEACHERS

5.1.1 Data is released to schools

As described in Chapter 4, once NAPLAN student assessment has been collated, measured and translated, individual student and school level data are returned to schools. Each state and territory's curriculum authority is responsible for the provision of NAPLAN data back to schools. In Queensland, both school level and individual student NAPLAN data are released to schools via the QCAA. School administrators access the data via a secure website which allows them to download various NAPLAN reports. The data is also made available to teachers and school leaders via the department's OneSchool database. At both North Bank Primary and East Side High teachers were given information and instructions in staff meetings about when and how to download data on OneSchool.

In early 2014, I attended a number of staff meetings at North Bank Primary where teachers were instructed on the technical process of downloading NAPLAN data. Similarly, teachers at East Side High were provided with this training, often through their faculty rather than at whole staff meetings. In one staff meeting I attended, teachers were shown how to access reports which showed the responses of all students. This required them to download a spreadsheet for each NAPLAN domain by year level (e.g., "Language Conventions" for Year 3 students in 2013) before manually sorting students who were in their class (e.g., a Year 4 teacher would go through the 2013 spreadsheet and remove rows for students not in her class in 2014). A number of teachers at both schools showed me printouts of OneSchool NAPLAN class reports. Many brought their laptops to our formal interviews, or invited me to their classrooms (and a nearby café) for informal conversations where they showed me how they accessed these reports. However, in order to protect the anonymity of participants, in this section I have chosen to use generic screenshots of OneSchool reports available on the internet rather than reports shared with me by teachers. Appendix C provides an example of OneSchool screenshots for accessing NAPLAN reports, as well as a spreadsheet that provides NAPLAN data for each student, showing their answers, which are colour coded so teachers can quickly see which questions individual students answered correctly (green represents a correct response).

Although this work of downloading and collating class data took some time, it was the activation of institutional texts that were oriented towards NAPLAN that orchestrated the majority of teachers' work. As described in Chapter 4, one of the dominant responses of principals to the demands of policy makers and bureaucrats was to authorise and prioritise work for teachers that would enable them to meet the accountability demands that had cascaded from government through the education department and region and into the school. Following are examples from each of the two schools to explicate how chains of events were unleashed as locally produced texts that had been instituted by principals (in response to the textual demands described in the preceding chapter) were activated by teachers.

5.2 INSTITUTIONAL CIRCUITS

In this section, I explore two examples of what Smith (2006b) describes as institutional circuits. To understand how ruling is organised textually, Smith describes "intertextual hierarchies" in which some texts regulate others (2006a, p. 66). Regulatory, or "boss texts" do not regulate by their existence alone, but rather, because they are created by an authority with the power to sanction particular actions and procedures at particular times (Smith, 2014). Regulatory texts such as school policies that require teachers to collect various forms of data are given power as they are read and acted upon. As teachers work to meet the requirements of timelines that are textually mandated, their time is separated, orchestrated and coordinated.

The institutional circuits presented in this chapter required teachers to undertake a range of work that became part of textual and temporal sequences. In institutional ethnography, texts are understood as part of temporal sequences in that they are read and acted upon not only in local sites, but also at particular times. Understanding "texts as occurrence" (Smith & Turner, 2014, p. 67) rather than as static documents allows them to be analysed in the context of how they orchestrate actions. Although texts are objects, their work is accomplished because they are standard and replicable – able to be read and acted upon by different people in different local settings at different (or the same) times. So, whilst one teacher might read a school policy on a Sunday evening at home, another might read it on a Friday lunchtime in her classroom. As teachers at both North Bank Primary and East Side High described their work, and as they shared examples of their spreadsheets, markbooks and

calendars, it became apparent that the allocation of their time was tied to textually-mediated institutional circuits.

In understanding how teachers spend their time, it is useful to consider the modern organisation of time. Western conceptions of temporality are known as industrial or bureaucratic time, and are characterised by lives that are no longer organised by the natural environment (such as tides, the sun's movements and seasons) or biological human needs (such as biorhythms and needs for food, sleep and human interactions) (Adam, 1990, p. 104). This industrial nature of social time governs the organisation of schools, with all aspects of school life being timed and structured by layers of routines and timetables that govern what happens during days, nights (e.g., homework), semesters and years. Synchronised bells govern the movement of teachers, students and families during school days: assemblies on Mondays; music on Tuesdays; art on Fridays. Lessons and curriculum content are delivered according to a national curriculum that is also carefully timed. The seventh year of schooling might see students across the country study Ancient Indian history, while the eighth year might require students to study more modern civilisations such as the Aztecs or Incas of South America. As Ball (1984, p. 43) described some three decades ago, "school life is organised by complex temporal sequences" with single timed events such as individual lessons "nested" (p. 44) within multiple longer term sequences such as units of work and course curricula. Increasingly, data that is linked to accountability regimes is electronically collected and monitored according to carefully timed and nested annual schedules and calendars. Thus, each of these timed sequences is coordinated by textually-mediated ruling relations.

At both schools, the reading of NAPLAN data at the school level set in train a number of chains of further activity that were textually linked and oriented towards NAPLAN data. In tracing how these textual circuits operated in teachers' lives, I looked for the "institutional traces" (McCoy, 2006, p. 11) in teachers' talk to map local experiences to the ruling text, NAPLAN data.

5.2.1 North Bank Primary

To demonstrate how a regulatory or boss text is enacted within an institutional circuit, in the following section I follow the work of a Year 6 teacher at North Bank Primary, Nola, as she activated a series of texts, beginning with a key regulatory text called the "North Bank Assessment Calendar" (see Figure 5.1). The decision to

present parts of this section from the experience of one teacher is intended to provide the reader with a clearer picture of the processing interchanges and work that was authorised by the assessment calendar. To do so, I draw on numerous informal conversations and a formal interview with Nola, as well as a range of texts Nola generated as part of the textual sequence. To explore the temporal sequences, or orders of work that Nola and her colleagues were required to undertake, this section focuses on one test item nested within the calendar, the "Informal Prose Inventory" (IPI) and outlines how the activation of the boss text (the calendar) and subsidiary texts (such as IPIs) served to organise teachers' work over the course of days and the school year.

Although I have chosen to outline the work required for the IPIs, this section could have equally described any of the other tests (in particular the literacy tests), as teachers described the range of work required for each in similar ways. Many of the tests mandated at North Bank were either the same or very similar to those used at East Side. For example, Dianna (at East Side) summarised her experience of collecting *Words Their Way* (spelling) data (which was an item mandated on the North Bank Primary Assessment Calendar) by saying that, "Ohhh… and the time it took!" In particular, I chose to follow Nola's account because she was the longest serving teacher I interviewed, having a career lasting almost 40 years. Nola had reflected on her work and the changing nature of data; switching between enthusiasm and frustration as she talked.

The first days of the year are known in Queensland as "pupil free days", where teachers attend school meetings and professional development, as well as plan and prepare for the year ahead. In 2014, two pupil free days included a range of professional development on how to use data. The frequency with which data conversations and data sessions now occur in Queensland schools is explored below in Section 5.3.1. I note here that the very first day of the school year was marked by a focus on data and the activation of numerous institutional texts that are oriented towards data.

A key boss text that was shared and discussed at the beginning of the school year at North Bank Primary was the "North Bank Assessment Calendar" (see Figure 5.1). This text provided a detailed timetable for data collection and recording that all classroom teachers were required to enact over the coming year. The document was

afforded particular authority in that it was generated and authorised by the school leadership team (the school principal, deputy principal and head of curriculum). The timetable specified the data to be collected, and identified the deadlines to be met by teachers throughout the year.

Learning Area	Test	Prep (Average age: 5.5)				Year 1 (Average age: 6.5)				Year 2 (Average age: 7.5)				Year 3 (Average age: 8.5)				Year 4 (Average age: 9.5)				Year 5 (Average age: 10.5)				Year 6 (Average age: 11.5)				Year 7 (Average age: 12.5)			
	Semester	1		2		1		2		1		2		1		2		1		2		1		2		1		2		1		2	
	Term	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Spelling	South Australian Spelling Test A					By week 4				By week 4				By week 4				By week 4				By week 4				By week 4				By week 4			
Spelling	South Australian Spelling Test B								By week 4				By week 4				By week 4				By week 4				By week 4				By week 4				By week 4
Spelling	Words Their Way Spelling					By week 4				By week 4				By week 4				By week 4				By week 4				By week 4				By week 4			
Reading	Burt Word Test					By week 4				By week 4				By week 4				By week 4				By week 4				By week 4				By week 4			
Reading	Informal Prose Inventory									By week 6				By week 6				By week 6				By week 6				By week 6				By week 6			
Reading	Progressive Achievement Test - Reading														By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6
Reading	PM Benchmark	On going	On going	On going	On going	On going	On going	On going	On going																								
Writing	Moderated writing task				Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports
Maths	Progressive Achievement Test - Maths					By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6		By week 6	
Science	C2C Assessment task	Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports		Prior to reports	

Learning Area	Test	Year 6 (Average age: 11.5)			
	Semester	1		2	
	Term	1	2	3	4
Spelling	South Australian Spelling Test A	By week 4			
Spelling	South Australian Spelling Test B				By week 4
Spelling	Words Their Way Spelling	By week 4			
Reading	Burt Word Test	By week 4			
Reading	Informal Prose Inventory	By week 6			
Reading	Progressive Achievement Test - Reading		By week 6		By week 6
Reading	PM Benchmark				
Writing	Moderated writing task		Prior to reports		Prior to reports
Maths	Progressive Achievement Test - Maths	By week 6		By week 6	
Science	C2C Assessment task	Prior to reports		Prior to reports	

Figure 5.1 North Bank Primary Assessment Calendar (enlarged for Year 6)

The principal, Debbie, and her leadership team used the calendar to ensure consistent, standardised practice across the teaching workforce. As Smith (2005) describes, replicability and standardisation are essential for texts to coordinate actualities translocally. The assessment calendar was intended to ensure that the progress of all students could be tracked over time, in a range of curriculum areas from students' entry (typically in Prep) to exit (typically in Year 7 at the time of data collection) from the school. The calendar specified that Year 6 teachers must collect and enter ten sets of class student achievement data into OneSchool. Each of the ten assessment items listed on the calendar required teachers to undertake a sequence of textually organised doings. Thus, the calendar as a regulatory text served to create ten textual processes for each teacher at North Bank. Each teacher at North Bank would have understood as they read the calendar that the implied action was that they must create another set of texts, data and/or reports for each of the datasets listed. It

is these process exchanges of texts that not only "get things done" (DeVault, 2008, p. 7), but that create opportunities for some actions, while restricting other possibilities.

In all cases, the deadlines specified required teachers to collect and record data into the departmental database, OneSchool. As described in Chapter 3, the requirement for teachers to collect standardised forms of numerical data and enter them into a central database are distinctive of new public management, in that they draw on managerially produced texts that form part of standardisation, efficiency and effectiveness agendas (Rankin & Campbell, 2009). Although I focus on Nola in this account, all teachers at North Bank Primary were required to comply with the requirements of the calendar. Rosa, a Year 7 teacher described it by saying, "It's mandated! Right! Year 1 to Year 7, this is like… like we know that this week everybody is doing South Australian Spelling test B". Rosa's comment highlights the translocal power of texts to coordinate the work of teachers in different places and at different times.

My semi-structured interview with Nola started just before the lunch break on a sweltering, hot school day. Another teacher who I had planned to speak with was away sick, and Nola offered to come and speak with me a day earlier than originally planned. I had spoken with Nola a number of times before, where we had talked about specific pedagogic programs being implemented at the school, but this was the first time we were meeting to discuss data.

As we sat in a small room in the library, it became clear – as it did during many of the interviews at both schools – that the insistence upon the focus on data improvement, collection and analysis in schools was overwhelming. As Nola talked and reflected on almost four decades of teaching, she described two very distinct kinds of work with data: one that she had always done – using her own professional judgement to assess students for diagnostic and reporting purposes; and a new kind of work – one that was based on requirements that, as she described it, had "come from above". Nola described this managerially generated work as "what you have to do". Across the school year, a great deal of Nola's work that had "come from above" had been listed in the school assessment calendar.

One of these, the "Individual Prose Inventory" or IPI is a set of texts designed to assess students' reading using a document known as a "reading running record"[11] (see Appendix D). According to the publisher, Sharp Reading, "IPI's are tests of a person's reading ability. They take about 20 minutes to conduct and give you information about a student's reading ability and use of strategies to decode and comprehend text" (http://www.handyres.com/c/183455/1/ipi-online---using-informal-prose-inventories.html). To gather the IPI data required for the regulatory text (the assessment calendar), teachers had to follow the textually-mediated processes provided by the publisher. These instructions are intended to regulate teachers' performance by providing detailed instructions for gathering "IPI data" that can be uploaded according to the requirements of the assessment calendar. The process requires teachers to listen to individual children in the class read from texts in the IPI assessment series, and record their standard of reading using an associated text, the reading running record (see Appendix D).

What occurs between teacher and student during reading is a social process, but in assessing student knowledge, the IPI texts mediate these relations. The set of texts that form the IPI program make sense within the social relations of teacher and student sitting together with the purpose of assessing the student's reading ability. The IPI texts therefore organise the social relations between the teacher and student. One way of understanding the textually-mediated nature of this social relation is to consider how a child might experience reading during this activity. For example, when a child has the opportunity to spend time reading to a teacher, away from the distractions of the usual classroom busyness, the enjoyable aspect of time spent gaining individual attention in social relations with their teacher may be most important. However, for the teacher, the activity is not oriented towards enjoyment or building interpersonal relationships with the student. The activity is guided and organised by the requirements of the IPI instructional texts. The experience of the teacher reading with a single student is not organised at the local level. What is observable at the local level – a student reading to a teacher – is part of a set of ruling

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[11] Reading running records were developed by distinguished New Zealand educator and researcher, Marie Clay (e.g., Clay, 1993, 2001). They were designed to help classroom teachers identify patterns in student reading behaviours, and are now used regularly by teachers in many education systems including the U.S.A., U.K., Australia, Canada and New Zealand. Running records are commonly used in the early years of schooling to assist teachers in providing early intervention.

relations that originates outside of the local. This extralocal organisation organises what happens in the local circumstances not only for Nola and her students, but also many other teachers and students, each in their own local setting. In other words, this activity is organised extralocally; but coordinates work translocally (Smith, 2005). According to the publisher's website, their reading programs are sold to schools in New Zealand, Australia, Hong Kong, the U.K., Samoa, and the U.S. (http://www.sharpreading.com/g/1182442/sharpreading-online---cutting-edge-reading-strategy-instruction.html). These standard, reproducible texts are the mechanism that allows a teacher in New Zealand to perform the same work as a teacher in the U.K. or Australia. Returning to the school's assessment calendar, I note that all but two of the datasets listed require teachers to engage with assessment tasks that were generated extralocally, with only one item being a locally produced task in which teachers compare student writing samples.

Like NAPLAN, the IPI instructions specify how the social relations between teacher and student should be organised. The first instruction, to "focus on decoding, the student's ability to use the available cues (MSV) to recognise the words in the passage" refers to what George Smith (2014, p. 28) describes as "inscription". Here, the practices of the teacher are oriented towards producing the student's reading in textual form in order to create a set of "facts" about the student. What is recorded, or inscribed, is textually-mediated by both the instructions (for example the instruction to focus on "available cues") and the recording document (the reading running record) (see Appendix D). Inscription turns the activity of a student reading to a teacher into a documented reality according to the textually-mediated categories of the IPI program. Smith (2014, p. 28) describes these as textually-mediated "discursive objects" in that they exist in texts for the purposes of classifying activities or people using documentary procedures such as those prescribed in the IPI instructions and templates. What is inscribed by teachers becomes a "documented reality" that feeds into the regulatory texts such as the assessment calendar. Students' ontological positions are subjugated and interpreted using the textual discourses as teachers record "miscues" according to the categories of "meaning, syntax errors and grapho-phonic visual errors". For example, while a child may adopt a position in which a warm relationship with her teacher is at the heart of the reality of the experience, this position is subsumed by the teachers' focus on completing the

necessary paperwork, and inscribing an alternate version of events. Dorothy Smith explains that:

> Linguists have drawn attention to how some words don't seem to refer to anything. Seems like they're waiting for something to make their sense. Linguists call them shells. And shells have to be filled. A shell doesn't identify an everyday identifiable object or person. Actualities have to be worked up in language, not to describe but to fit. That's the work of inscription, the writing in of some reality into documentary form (Smith, 2014, p. 14).

The virtual reality about students that teachers inscribe fills the shell of the running record and subsequently, the assessment calendar. This categorisation of students into pre-existing categories creates reified realities about students that are taken up by teachers in ways that are textually oriented towards accountability rather than, for example, student well-being or teacher professional practice. Teachers inscribe the "facts" about students, relegating them to this level of reading or that. This act is accomplished via a textual circuit whereby a regulatory text (the assessment calendar) requires the use of reporting texts (the running records and spreadsheets), which feed back into the boss text (the assessment calendar). This textual circuit is depicted in Figure 5.2. Throughout the circuit, the doings of the teacher are turned towards textual requirements.
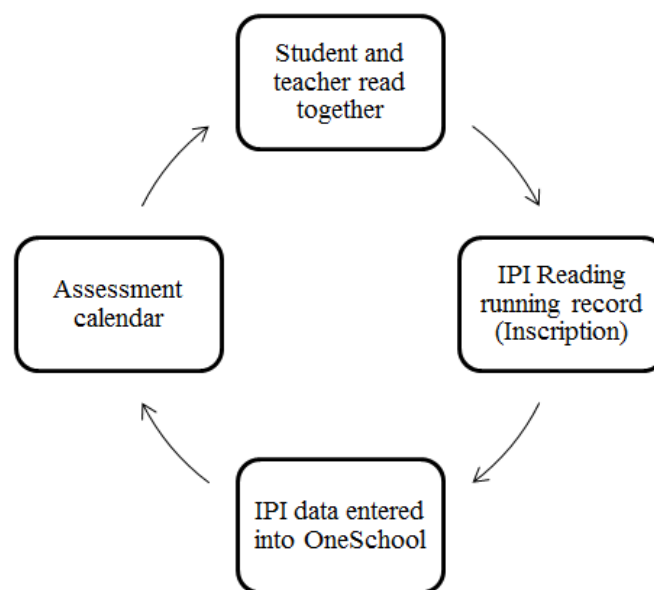
Figure 5.2 An institutional circuit of reading

The following section provides Nola's account of her quotidian work collecting IPI data and demonstrates the institutional circuit at work, and the significant amount of time that is reorganised by ruling texts that are oriented towards improving NAPLAN data. Nola began by explaining the work she does with students to complete the running record. This work requires teachers to sit with each individual child and listen to them read while giving them "a score for accuracy". This task had significant implications for the reorganisation of Nola's time. Following is an excerpt from our conversation, in which Nola was asked to describe how she collects IPI data:

Nerida	So is that one-on-one reading with them [your students], is it?
Nola	It's one-on-one. But it cannot be done during class time.
Nerida	Which means… it's done when?
Nola	Well! *(Sounds exasperated).* It has to be done at the beginning of the year. Which is fine.
Nerida	*(Referring to the school assessment calendar)* That is required by Week 4, is it?
Nola	Right. So I pencil in times with my children. Before school. And during the two lunch breaks. So. There are ten lunch breaks. And there are five mornings. Some of those mornings we have SSP [school strategic planning group] meetings. Like, you know, I'm part of the differentiation group. So you can straight away knock one of those out. So that gives you four mornings. Ok. There are ten lunch breaks. So knock out three because you have [playground] duty. So that is seven. So four plus seven is eleven. Then knock out Fridays, because Fridays is when they go off and they do sport. Now, generally we don't start that until Week 6 so you still have a chance to include those. So four plus seven is eleven. Ok? So, you don't get a break. The kids have to come in about eight o'clock in the morning if they can. Some will come. So they nominate a time when they can come and see you. So that is eleven. So if you have a class of 27… that is three weeks. Then… some of the kids forget to come! [Pause] So you've planned it out like that, but then…. So, it takes *(emphasising each word)* three weeks. Non-stop. Before school, and during your lunch breaks just to get the IPIs done.

Nerida   Now that is to collect the initial data…

Nola   Yes, and now! Listen to what's happening. That takes that amount of time. Anyhow. Someone in the reading committee came back and said, 'oh look… listen to what's happening. We have to do IPIs in Term 3 as well.' I lost it. I said, *(sounds angry)* 'are you serious?'

It is clear from Nola's account that the assessment calendar as a regulatory text coordinated both her days and her year. In order to meet the requirement to have entered data into OneSchool, Nola arrived at work early to test individual students. In the carefully choreographed school week, Nola could calculate the finite amount of time she had available to meet its expectations. She removed playground duty, meetings, sports and was left with three weeks of "non-stop work" that she scheduled during her own break times and before class. If Nola could not meet the requirements of the calendar to have data entered, her work would be conceptualised according to performativity and time – late. Although this work of inscription took time, it is also important to understand how it served to orient teachers' subsequent decisions about curriculum, pedagogy and assessment, as will be explored in the remainder of this chapter.

The decision to "do IPIs in Term 3 as well" was made with no consultation with Nola or her teaching colleagues. What is interesting in this analysis is that the IPI data collection is just one of ten in the school assessment calendar for Year 6. Teachers in all year levels were subject to the requirements in the assessment calendar, and undertook similarly scheduled testing, data collection and recording across the school year. Each one of these datasets requires work that is oriented towards texts, and orchestrates the work teachers undertake, prioritising particular work such as inscription that fills the shells of boss texts whilst restricting other possibilities, such as prioritising teacher-initiated data collection and analysis. The orientation of work towards filling the shells of boss texts also meant IPI data had diminished educational significance as a form of knowledge that might provide meaningful knowledge that could inform teachers' practice in the way that educators such as Clay (e.g., 1993) originally intended.

5.2.2 An "underperforming school": East Side High

In 2014, East Side High's regional office introduced an initiative known as the Success Schools Program, which provided regional support to schools that entered into the program. Schools across the region – including East Side High – applied to become "success schools" and were selected by regional office according to selection criteria, although Robert, the principal at East Side could not recall having seen the criteria "in detail". Robert described that "there was a judgment made on schools that were seen to have the best chance of success, I believe". In terms of "success", improvement in NAPLAN was a key performance indicator. Robert said that, "the key purpose was to have a significant improvement in NAPLAN data both in terms of the means and in terms of NMS. There was a desire for this to change results immediately but then there was a realisation that things would take longer as we were talking of changes in pedagogy to impact on learning".

In order to achieve the desired short and long-term improvements in data, the region provided principals, school leaders (such as heads of department) and teachers with professional development, as well as visiting coaches who worked intensively at the school. Although the region has no publicly-available data on the program, an audit of the websites and annual reports of the more than 200 schools in the region revealed that at least 78 schools reported either being "success schools" or having a "success team". Only one school admitted to its school community in a newsletter that it had been unsuccessful in its application to become a "success school". Conversely, schools that were successful very often used their involvement as a quasi-marketing opportunity in school newsletters. For example, below are extracts from a number of different school newsletters:

- We have been lucky enough to be selected for the Success School Literacy Project.

- In Semester 1, [we] submitted interest in being a Numeracy Success School for Semester 2 this year. I am pleased to announce that we have been accepted into this program…

- We have been successful in being named a Success School which required us to go through a selection process with all schools [in the region] able to apply. This is a great accolade for our school…

- [Our] school has been identified as a Success School – Reading.

- Our school has been selected to take part in the Region's Success School's Program for Semester 2, 2014… The objective of the Success Project is to gain improvements in NAPLAN results and to improve teacher effectiveness in Literacy and Numeracy and student learning outcomes in the classroom.

According to Robert, the principal of East Side, the region closely monitored the outcomes of success schools, with an intense focus on NAPLAN data. Figure 5.3 depicts a so-called "data grid" that was used in the Success School project to "inform teachers of intervention strategies". Again, NAPLAN data is colour coded and used to not only classify students but also to direct teachers' work. In this case, the grid links students' data on PAT-Maths and NAPLAN, and encourages teachers to make direct links between the two sets of data.
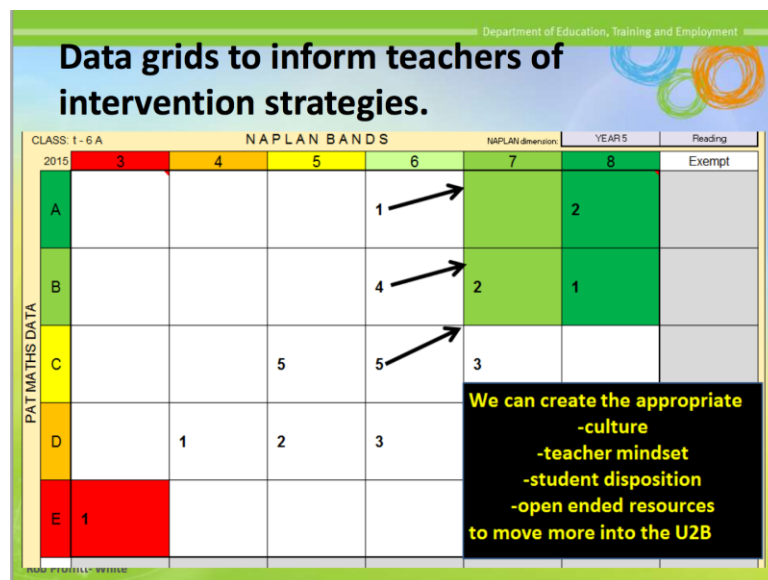
Figure 5.3 Success School data grids to inform teachers of intervention strategies

As well as cross-tabulating PAT and NAPLAN data, the grid provides both visual (arrows) and textual ("move more into U2B") suggestions for how teachers and schools might consider focussing on students who are most likely to move into the Upper 2 Bands of NAPLAN. The arrows and text work together to create a textual focus on so-called "bubble kids" (Lipman, 2004, p. 43) – students who are close to achieving a desired standard such as U2B.

This process of linking various data sets to NAPLAN was also evident in the use of a school authorised documents, such as East Side's so-called "data differentiation placemat" (see Figure 5.4). The data differentiation placemat was a school document that was used to categorise students in every class in order to ensure teachers would differentiate instruction according to NAPLAN and classroom assessment data. One of the teachers who had been seconded to serve on the leadership team for part of the year said the placemat was at the forefront of her mind because being part of leadership meant that she now "gets to hear what the boss is driving and what he wants to see." As a document that was developed and supported by the leadership team, she said that there was an expectation that teachers would update the placemat every term.

Using this document, teachers at East Side High were required to categorise and label students by ability according to NAPLAN scores and scores on school report cards. The purpose of mapping all students onto the grid (see Figure 5.4 below) was to determine which remedial intervention teachers should implement. The boxes are:

1. High achievement on both school report card and NAPLAN;

2. High achievement on school report card data and low on NAPLAN data;

3. Low achievement on both school report card and NAPLAN;

4. Low achievement on school report card data and high on NAPLAN data; *and*

5. Average achievement on both school report card and NAPLAN;

The panels on the sides provide a list of differentiated pedagogical strategies to inform teachers' work. Smith, Lee and Newmann's (2001) research in Chicago schools found that while higher-achieving students were more likely to be exposed to interactive, progressive pedagogies, lower-achieving students from poor backgrounds and with challenging behaviours were far more likely to be exposed to "didactic" (p. 15) instruction including traditional teacher-centered lessons and a focus on basic-skills literacy and numeracy. The data differentiation placemat (see Figure 5.4) similarly directs teachers to alter pedagogies so that higher-achieving students are exposed to "higher order thinking strategies" and "explicit discussion" while lower-achieving students are exposed to "visual organisers/mnemonics… more kinaesthetic/hands on" and the like.

CLASS WINDOW

CLASS: FACULTY: YEAR: SEM: TEACHER:

High Achievement in Class – Low Testing Score

Strategies

SCHOOL STRATEGIES
These students work very hard and tend to stress leading up to exams – During tutorial sessions have someone talk to students about stress reduction in exams
- Access to relaxation techniques

IN CLASS STRATEGIES
- Class Work – self identified/Independent learning/increase independent work tasks/more focused practice in areas they have difficulty in/Tutoring;
- Explicit Teaching / Scaffolding/ Re-capping core skills;
- Teacher Feedback/Drafting/Monitor how much support given on drafts;
- Focus on strategies in dealing with tests/test literacy/Revision techniques/time management in exams/more practice at testing
- Mentoring/Peer tutoring with High Achieve/High Test
- Rewards
- Extension work
- Outside competitions

High Achievement in Class – High Testing Score

Strategies

- Higher Order Thinking Strategies
- Explicit Discussion
- Keep students interests
- Lead class
- Streamed/concept or Make a 'concept' class one lesson per week
- Library after school
- G & T Activities
- Extend areas they can still improve, that is self-reflecting skills and strategies
- Peer Learning Circles/ Proof read each other's work (peer editing)
- Mentoring/Peer tutoring with Low Achieve/High Test
- Extension work especially for activities in classroom
- Outside competitions

Average Achieve in Class – Average Testing Score

Low Achievement in Class – Low Testing Score

Strategies

SCHOOL STRATEGIES:
- Subject Choices and Alternative Pathways
- Learning Support Class

IN CLASS STRATEGIES
- Visual Organisers/Mnemonics/Variety of Media/Bridging from Prior Knowledge/ More Kinaesthetic/hands on/ Interest based /Small group learning/Work on reading comprehension skills/ Scaffolding;
- Split up behaviour issues/ Organisation Techniques/ Structure and goals/ Negotiate quantity of work/ Seating Plans for Peer Mentoring/Positive reinforcement;
- Revision/Adjusted Assessment items/ Testing Strategies/Reteach Reflect After Assessment;
- Learning Support/Support Staff/One on One to ensure understanding;
- On line Maths/English/Back to Basics
- Mentoring/Peer tutoring Group with Average Class/Average Test
- Reward system
- Extension work

Low Achievement in Class – High Testing

Strategies

- Class Work – Different Activities in class to meet all needs of students/Allow Choice and Competition in Higher Order tasks/Increase motivation through authentic learning experiences/ Increase the amount of independent work/What is real life to these kids? What are they interested in?
- Modeling of exemplars of class work/ Open-ended Questions/Explicit Teaching/Drafting
- Time Management/Organisation Techniques/Revision Techniques/ Homework check
- Regular meeting with student to discuss progress/ Goal setting
- Parent contact
- Tutoring
- Mentoring/Peer tutoring with High Achieve/High Test
- Reward system
- Extension work
- Outside competitions

Special Needs /Behaviour/Medical

Indigenous Students

Higher Test Scores   Lower Test Scores   Standardised Test Instrument:

A   B   C   D   E   Higher Achievement   Lower Achievement   Subject:

NAPLAN Scale

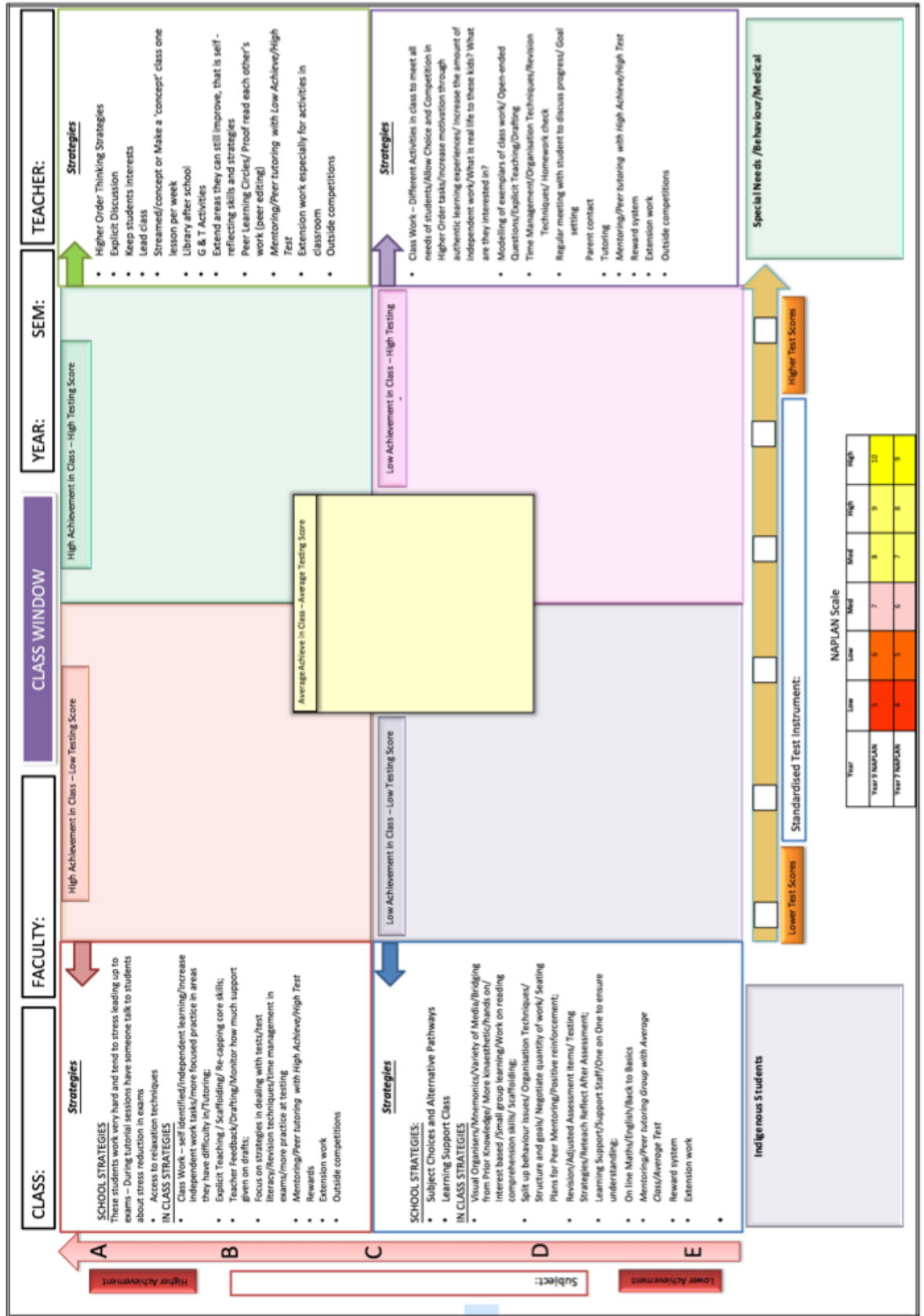| Year	Low	Low	Mid	Mid	High	High
Year 9 NAPLAN	5	6	7	8	9	10
Year 7 NAPLAN	4	5	6	7	8	9

Figure 5.4 East Side High Data Differentiation Placemat

It was clear to teachers at East Side that the ultimate goal of the directive to map students using data was to bring about improvement in the school's NAPLAN data. Here the benefit of empirically mapping across sites becomes clear: the grid on the placemat (Figure 5.4) is remarkably similar to the grids on the School Performance Profiles (see Appendix A). For example, the use of grids, and the focus on NAPLAN in the School Performance Profile are also evident in the placemat.

Julie explained how the process had reorganised her time even prior to the first day of school:

Julie: This is the expectation is that you do it [the placemat]. So I did *allll (emphasises 'all')* this work [over the summer vacation], and then you rock up [to the first day of school] and then… oh! All my kids are all different. I've got a different class now… and you think, oh, well that was a big waste of my time.

Nerida   Meaning you looked at how some had done well with this NAPLAN question, or that question…?

Julie   No, like I had one timetable, I had these kids – this class, so I looked at that data, and then when it came to actually having the class… I had a completely different class! So I'm thinking, *all* that data, *all* that time I put into analysing was *useless*. I might as well have just waited until the kids were in front of me.

Nerida   Mmm-hmm. So you get the placemat, and then I guess have a focus on teaching that is somehow based around that? Around where they are on that?

Julie   Yeah. Where they are…

Nerida … and that starts in Grade 8…

Julie   Yes[12].

Nerida … and that leads up towards preparing them for NAPLAN in Grade 9, is it?

Julie   Yes. We're meant to use that to differentiate, and to help us plan. So obviously if we know…

Nerida… plan for NAPLAN?

Julie   Oh, yeah and to help us plan generally for our classes. If we know generally we've got a lot of kids who are not at national standard

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[12] A Year 7 teacher at East Side subsequently confirmed that the placemats were also used in Year 7.

> [according to NAPLAN minimum benchmark], then we've got
> literacy problems in the classroom that we need to address.
> Whereas if we've got lots of kids who were above, who were
> getting [band] 8s and 9s, well then we've got a bright class. We
> need to challenge them more.

The teachers at East Side, like Julie, had absorbed the workload required to "fill the textual shells" (Smith, 2014) of the placemat. However, as Julie describes, the administrative work of completing the placemat was only the first in a series of actions teachers were required to take as they activated the placemat. As is clear from the excerpt above, at the time of our interview, I didn't understand how the placemat was used. I had ignorantly assumed that because the document maps NAPLAN results that it was used only to guide preparation for NAPLAN testing. Rather, the placemat was intended to more broadly reorient curriculum, pedagogical and assessment planning as a means of improving NAPLAN data. Analysis of the text on the document clearly shows how the school has specified teaching strategies with each achievement quadrant.

As they completed their placemats, it became clear that NAPLAN data trumped other forms of knowledge about students and how to teach them. In fitting students into the categories on the placemats, actualities were "worked up in language" (Smith, 2014, p. 18) and actualities were inscribed into reality. Julie's explanation of who is "bright" was drawn directly from NAPLAN data. The use of NAPLAN data in this way created normative categories, with Julie explaining that students who did well at NAPLAN were "obviously" bright and "should" be in particular ability based categories. In this way, NAPLAN data also trumped Julie's professional knowledge, built up over more than 30 years of teaching experience, to inform her categorisation of students and decisions about "who needs to be challenged".

The categorisation of students was taken a step further as teachers were also asked to produce "data walls" to provide a visual reference for students and teachers to track achievement. Emma explained that "like you might have a code name for them, or their actual name, depending on what the class decides. And you have it up in your classroom… so it is a bit of visual data for them to see where they are". The use of data walls was intended to inspire competition amongst students. Harry, a deputy principal used the metaphor of a ladder to describe the operation of the data walls.

He said that, "kids know where they sit on the ladder. They can see when they move up. It is a visual representation of where they are at". Although it was a school-based decision, both the data walls and placemats were to be monitored by faculty heads of department:

> Nerida So that is just a teacher choice? Or a faculty choice? [whether or not to complete the placemats and data walls]
>
> Harry Yeah, it is. It is top down. So the admin team have it as a 'non-negotiable'. No, [the principal] doesn't call it non-negotiable. He calls it desirable. I don't think it can be non-negotiable. So these are the things that are desirable. One of them is a data wall in every classroom. But I don't think it can be enforced. It is just a desirable. But heads of department will have their own agenda in terms of how much they use them.

The use of language, from "non-negotiable" to "desirable" indicates that the use of data walls is widely expected, although the responsibility for ensuring compliance was delegated to heads of department. In this non-negotiable/desirable environment, teachers had some success in taking issue with the use of data walls. To preserve the anonymity of research participants, I have not included an image of data walls from East Side. However, to provide an indication of how data walls are constructed, Figure 5.5 shows how another Queensland school displays student data. (Image accessed online via a school website).

Figure 5.5 Example of a school data wall

While the procedure was initially intended to operate across Years 7 to 12, Dianna explained that the Year 7 teachers had refused to display student data:

> Dianna I still don't think, really until Grade 10, that kids need to be hit over the head with data. Not in front of people. You know, you can use a symbol, but, really? *(sarcastic tone)*. We all know. And not only do we know, but *they* know. So it is reinforced every time a kid walks in the door: 'I'm at the bottom…. I'm at the bottom… I'm at the bottom.'
>
> And that can work in reverse. 'I'm at the top… I don't have to do anything… I'm at the top… I don't have to do anything.' And then one of the things that you sort of, try to tell kids is that it is about lifting your game a little bit. You know? You might never be a rocket scientist, but you can improve. Everybody can improve. So, if you have got them always sitting there – and even though that is where they might sit in their cohort – and always seeing…
>
> Nerida Right, so that is not necessarily showing their personal improvement.
>
> Dianna …Their growth. So, yeah, I really am very much opposed to it. I won't do it.
>
> Nerida Are you the only teacher who…
>
> Dianna No, there are a few. In Grade 7 none of us do it. But it was quite a… I think the talk was about… oh… that a bit of competition spurs people on. And my point was always that if it was a level playing field, that's ok. But, you know, kids don't come from a level playing field, so… anyway, so yeah. We don't have to do that now, which is good.

Dianna and her colleagues' objections about the visual display of data and the lack of a level playing field may have allowed her year level to avoid the creation and display of data walls, but interestingly, the practice was already being used at the local primary school next door. Amanda had just come from a planning meeting at the primary school prior to our interview:

> Nerida So is the data wall happening down there [at the primary school] as well? Is that what you were meaning before?
>
> Amanda At the meeting?

<pre>
Nerida   At the primary school.
Amanda Pretty much so.
Nerida   Is that because Robert works with the primary school principal
          together?
Amanda Ummm. No I think there is a drive. There is a state-wide drive.
          There is a lot of data driven…
</pre>

Again, the links to local school activities and extra-locally produced "state-wide drives" to institute practices based around data improvement are made visible. This push may explain why the school has persisted with the use of data walls even though, as Harry, the deputy principal admitted, not only did some teachers "fundamentally disagree with the concept", but that also many parents disagreed with student achievement being "advertised to others".

Returning to the reorganisation of teachers' work, the focus on analysing and displaying data began even before the school year began. When asked about what she perceived to be the main data she worked with, Emma reported that the "huge" one was NAPLAN. Like Julie, the teachers at East Side looked at NAPLAN data, and completed shells such as the data placemat during their summer vacation. Emma explained that part of this work was to help her gain an understanding of the students in her class:

> … [We look at Year 7 NAPLAN], even in Year 10, we look at their Year
> 9… like they might be on a C [on in-class assessment], and I have their
> name there, but according to their NAPLAN, they should really be on a B or
> A. So they are underperforming. So you can see those students.

Despite being a "point in time" test, NAPLAN data was constructed as even more objective than teacher judgement and classroom based assessment. Teacher judgement and professionalism were displaced by a disembodied but purportedly objective way of diagnosing students' ability. Although the teacher in the previous year had used professional judgement to assess a student as a C, it is the NAPLAN data that counts – making students visible, and leading to yet another label – "underperforming". This visibility also allowed the school principal, Robert, to have similar normative expectations and draw similar conclusions about where students "should be". Emma went on to say that, "Robert looks at [NAPLAN data] and then at staff meetings, he says "these kids were in the top stream, and they got these results

on NAPLAN, and they should be getting As [for example on a writing task], and they're not". Thus correlating NAPLAN data with school-based A-E reporting on documents such as the data placemat created a mechanism that even allowed students in higher streams to be labelled as underachievers. I asked Julie how she went about the process of data analysis as she completed the placemat, and again, traces of institutional language were evident in her response:

> I'm primarily looking at who's… got a seven [band in NAPLAN], and who's got a six [band six is deemed under the national average; and band seven is over the national minimum standard according to NAPLAN band scales] and… 'oh well, they're not at national average, at benchmark, so I've got to put them in this category.' Or, 'Oh, they did really well at reading, or writing, so obviously they're bright kids, so they should go in and be at this level.'

The work of inscribing student achievement into reality and adjusting their work accordingly was authorised through the data placemat. The use of language around bands and national average dominated Julie's talk, and demonstrated the intertextuality between how Julie and her colleagues activated the placemat and the texts that had cascaded into the school via departmental texts (such as United in Our Pursuit of Excellence (DETE, 2011)) that required principals to work as chief executives and instructional leaders who would be accountable for improvements in NAPLAN bands.

These textually authorised requirements for teachers to adjust their practices to meet political demands around NAPLAN data impacted teachers as they struggled to meet local accountability and performativity demands. Smith and Turner's (2014) conceptualisation of texts as active, through text-reader conversations is useful because as teachers read, activated and responded to various texts such as the placemat, the texts also "organise[d] the reader's subjectivity in how she responds" (p. 13). I asked Julie about the impact of the placemats in a school where classes were streamed:

> Nerida   But with the 'peak class' [the extension streamed class], and the 'fundamental' [lowest streamed class] and 'central' [middle streamed class], that must have an impact on the placemats as well, does it?

Julie   Oh it does. If you've got a 'peak class', the expectation is that you will have all your kids up in that top band [of NAPLAN]. And then for the fundamental, you've got all the kids down the bottom bands. Then in the middle you've got the central classes… and in the middle classes, you can have enormous differences amongst the kids.

Nerida   And how does that affect teachers who have got the various classes? Are they being judged on their placemats, and their NAPLAN data, do you think?

Julie   We're not judged on our placemats, but we are certainly judged on the results that we get.

Julie's comment that teachers were not judged on their placemats, but were judged on the data inscribed on the placemats is interesting. As teachers activated authorised policies and experienced performative pressures to improve and differentiate according to the placemat, they worked with their colleagues in their faculties to plan and deliver teaching programs that would improve the data on the placemat – with an emphasis on NAPLAN. Here, Emma describes planning and teaching in the English faculty:

Nerida   So what sorts of things are you talking about there? What would you be expected or required to do, in preparation for NAPLAN?

Emma   Well, we would be very, very explicit. So you might have your spelling strand and your reading strand. And your punctuation. Then you've got your spelling book – which is just useless. So there was a requirement to do that. And then we have an English skill builder book, which is like punctuation and grammar. We try and do that. It is just a whole lot of everything. And not enough time.

Nerida   And is that all from the beginning of the year?

Emma   Yeah. Yeah. It's just a lot.

Nerida   On top of your regular assessment? *(Emma: Yeah).* What was your assessment in Term 1?

Emma   I think they had to write a persuasive. Some sort of NAPLAN.

Nerida   Right some sort of preparation in itself also, I suppose.

Emma   Yeah. You are just up and running and trying to get enough to them.

What becomes apparent in Emma's discussion is that NAPLAN has unleashed a textual chain that has changed the everyday work of teachers. The instruction to be "very, very explicit" and to reorganise the curriculum to meet the basic skills literacy demands of NAPLAN – spelling, punctuation, grammar and reading – were now a requirement at East Side, mandated by the school principal and head of department through decisions such as the requirement to use spelling text books such as the "skills builder". The text used at East Side High that Emma specifically names is part of a series of texts known as the *English Skills Builder* published by Oxford University Press (Manning, Mackenzie & Horne, 2013). According to their website, the series is aligned to the Australian Curriculum, as well as being "comprehensive resources [that] will help to prepare students for NAPLAN success and provide a solid foundation in English language and usage" (*English Skills Builder Australian Curriculum Edition*, 2014). Here I also draw attention to the proliferation of commercial products (such as *Words Their Way*, *Skills Builders* and *PAT* products) that are now used in schools as part of institutional circuits. The increasing involvement of non-state organisations in education policy via public-private partnerships (see Chapter 3) combined with this everyday connection to teachers' work makes these edu-business and organisations powerful in the relations of ruling.

Returning to Emma's work, interestingly, she describes this activity as separate from her "regular assessment", even though it too was oriented towards the preparation of students for the NAPLAN writing task. The shift towards a focus on basic skills literacy – punctuation, grammar, spelling – was especially significant for teachers whose classes were reified according to the placemat as requiring remediation in anticipation for NAPLAN. This use of teachers' time was closely aligned with the suggested pedagogies provided on the placemat. For example, suggested strategies for students deemed to be "low achieving/low testing" included the use of memorisation strategies (e.g., mnemonics) and "back to basics" teaching.

Returning to Emma's description of her work, it is clear that explicit teaching of skills required for NAPLAN had significantly changed all aspects of her teaching work: curriculum, pedagogy and assessment. This description stands in contrast to the instructions to teachers presented in the media reports and NAPLAN protocols discussed in Chapter 4, which outlined an expectation that teachers would familiarise

students with test structures, and prepare students primarily by teaching the prescribed curriculum.

Julie's feeling that teachers were judged according to their data (see above) was felt across the school. However, teachers often acknowledged that Robert did his best to insulate them from the political demands being exerted through the principalship, and were aware that the imperative to improve NAPLAN was linked to departmental and governmental directives. After the majority of interviews with teachers at East Side, teachers stayed behind to chat, often confiding that they believed Robert was a supportive principal who had the best interests of students and teachers at heart. After the audio recorder stopped rolling, teachers said that they appreciated Robert's attempts to buffer them from the demands they imagined he was experiencing. During an interview, Theresa said that:

> Sometimes – and this is just my feeling – I feel that it is more about how the school looks rather than sometimes, what's best for the individual students. But I know that comes from an even higher level.

Thus, although teachers were not always aware of the range of institutional policies and directives that were textually linked to their work, they understood that many originated extra-locally. Indeed, a range of other institutional texts filtered into local documents "from above" also existed. For example, the school's Literacy Committee Role Statement (2013-14) required that:

LITERACY COMMITTEE ROLE STATEMENT – 2013-2014

- To provide advice to the principal on all matters pertaining to the teaching of Literacy across the curriculum. **To respond to Teaching and Learning Audit and directives and policies of Education Queensland.**
- That all faculties understand the mandatory nature of Literacy is crucial to any success.
- Teaching Literacy cross-curricula is: DATA DRIVEN (NAPLAN, QCS [Queensland Core Skills], SCHOOL), RESEARCH BASED, NOT OPTIONAL.
- To co-ordinate, develop and conduct programs and activities which enhance the teaching and learning of Literacy in the school community – **using ASOT [Art and Science of Teaching] as a**

* Bold red text and capitalisation was used in this way on the original text

This statement exemplifies the operation of ruling relations, and the way in which extra-local texts infiltrate teachers' work in local settings. For example, the committee makes direct links between teaching and the school's Teaching and Learning Audit (see Chapter 3). The placemat was also able to be linked to other departmental and regional initiatives such as the Success Schools project and the department differentiation policy. The heavy emphasis on "data driven" teaching – written in red, bold, uppercase lettering, is also not coincidental. The ordering of data: NAPLAN first, QCS (scaling test for Year 12 students seeking a university entrance score) second and school-based data third; and that this work was not optional further demonstrates the textual insistence that teachers must reorient all aspects of their work towards NAPLAN data improvement. The document goes on to suggest how particular aspects of literacy should be taught and monitored. For example, writing would require punctuation, grammar and paragraphing to be taught across all Year 8 and 9 faculties.

5.2.3 Reorganisation of teachers' work translocally

To further explore the translocal impact of ruling relations, I now provide an example of an additional form of data collected at both North Bank Primary and East Side High. The data is known as *Words Their Way* (WTW) (Bear, Invernizzi, Templeton & Johnston, 2008), which is produced as a suite of resources by global education publisher, Pearson as a series of books and resources for teaching and assessing students' spelling from prior to kindergarten through to college and university. Again I draw attention to the rising incidence with which edu-businesses such as Pearson are inserted into the work of teaching. At North Bank Primary, the collection of WTW spelling data was mandated on the assessment calendar. At East Side High, it was mandated only in the English faculty.

This example provides an insight into teachers' reports that data could be a helpful tool for informing their professional practice. It also illustrates the tensions that exist for teachers as they experienced the cognitive dissonance caused by dual beliefs in which data (sometimes even the same dataset) is simultaneously conceptualised as a useful tool to support professional practice, and one which has a

significant and detrimental effect on the organisation of their work. Here, I aim to move beyond "all-good/all-bad" descriptions (Sloan, 2006) of teachers' work with data, picking up on Foucault's (1988) conceptualisation of power as neither inherently good nor bad. I note that all of the teachers I spoke to except Dianna at East Side said that the assessment data gathered using WTW was useful. According to the teacher book, the program provides "spelling inventories" that are essentially lists of words that "represent a variety of spelling features at increasing levels of difficulty" (Bear, Invernizzi, Templeton & Johnston, 2008, p. 28). Dianna's concern about WTW was that she had used an American version of the product, which did not use Australian vocabulary or language. As she said, "I'm not going to teach the word 'faucet'" when in Australia, we would use the word "tap".

WTW spelling assessments are comprised of three spelling inventories that have been developed for different stages of spelling proficiency from beginning spelling (Primary) through to school age (Elementary) and beyond (Upper). In order to collect WTW data, teachers are provided with detailed instructions on how to administer the appropriate test and how to record, analyse and respond to results. For example, Chapter 2 (pp. 25-49) of the WTW book (4th edition) as well as in the appendices instructs teachers to (p. 264-6):

- say each word naturally, without emphasising phonemes or syllables (p. 264);
- call out each word aloud and then repeat it;
- use it in a sentence if necessary, to be sure students know the exact word (example sentences are provided, e.g., to differentiate between "cellar" and "seller");
- use the Elementary Spelling inventory" [next level of spelling inventory] for students who spell more than 20 words correctly.

Despite the introductory advice to teachers that they should "assure students that they will not be graded on this activity" (p. 264), the instruction book also provides a detailed procedure for recording students' spelling errors. Teachers are instructed to begin by marking each student's spelling as correct or incorrect, which is recorded as a "power score" (p. 33). Teachers are then required to use a "Spelling Inventory Feature Guide" to record students' spelling errors (p. 264-5) (See Appendix E). Each student's spelling is entered onto the feature inventory and scored by calculating the

spelling "features" that are correct. For example, if a student spelled the first word on the primary inventory, "fan" as "fen", the teacher would go to the first row ("fan") and record a "check" in the column "initial consonant" next to the "f" (to indicate that the student correctly wrote the letter "f") and also next to the "final consonant column next to the letter "n". No check would be placed in the "short vowel" consonant next to the "a". Rather, the procedure instructs teachers to write in incorrect spelling features. For example, the misspelled short vowel "e" would be written next to the "a"). Teachers are then instructed to check the "words spelled correctly" column, where appropriate. Instructions are provided for the marking of a range of possible spelling errors such as reversed letters, use of unnecessary letters etcetera. For example if "fan" had been spelled "fane", the three spelling features would each be checked, but no check would be recorded in the "Words Spelled Correctly" column. Finally, teachers are instructed to double check the number of "checks under each feature and across each word" as well as "double checking the total score recorded in the last cell" before "modify[ing] the ratios in the last row depending on how many words were called aloud (p. 264).

In order to collate individual student responses into a class "composite" teachers are instructed to "staple each student's spelling paper [and inventory], and arrange them in rank order from highest total points to lowest total points" (p. 265). Students' names are then to be recorded in this order on a "Spelling Inventory Classroom Composite" (p. 272). (see Figure 5.6). Students' scores are transferred onto the composite spreadsheet, and teachers are instructed to highlight cells where students made two or more errors on a particular spelling feature. The composite shown in Figure 5.6 was completed by Rosa, using this procedure, although I note that all North Bank teachers I talked to had completed the composite according to the prescribed procedures.

Figure 5.6 Words Their Way Upper-Level Spelling Inventory classroom composite.

Rosa had added additional data such as the students' rank, "power score", and data from another spelling test mandated on the school assessment calendar, known as "South Australian Spelling", as well as WTW data from the previous year. Teachers at North Bank were also required to enter the data into OneSchool so that the school would have a permanent record that could be tracked over time. The teachers found

that this kind of detailed data was useful because it helped them to understand the kinds of errors students made in spelling. Rosa found the data shown in Figure 5.6 useful because it visually demonstrated a correlation between the difficulty of spelling features and the overall spelling knowledge of students' in her class. Rosa was very interested in the column "complex consonants" because a greater number of students in her class made errors according to this feature than she had expected. Similarly, fewer students made mistakes on "inflected endings and syllable juncture" spelling features. She had planned to talk with her year level colleagues and adjust her teaching in response to this data. For some teachers, providing students with access to this data was a helpful way of giving useful feedback.

The data was also used for reporting, with the WTW spelling data contributing towards students' end of semester report card. Teachers also reported that this detailed data provided a helpful mechanism for grouping students with similar spelling knowledge and enabling differentiation of instruction. To do so, teachers often used data to group students by ability. The data was also used by teachers to provide feedback and encouragement for students. For example, Liz said that:

> even my low boys who, you know, had gotten three out of seventy words.
> They could feel good about themselves. 'Wow! I've now gotten seven
> ticks!' So they could see progress. And I think that is really nice. The kids
> were really chuffed to see that compared to the old data, you know. They
> could really see where they were going and feel really good about
> themselves.

The use of data as a form of feedback to students was not limited to WTW, or to the teachers at North Bank. Teachers identified a range of data that was used for this purpose. Teachers also described WTW as a useful means of providing feedback to parents. Griffith and Smith's (2005) institutional ethnographic research highlighted the educational work done by mothers and the profound effects on students. This mothering discourse was evident in the way various forms of data such as WTW was ascribed as being a mechanism for instructing parents about the kinds of work they were expected to do to support their children's education. For example, Liz said that, "[WTW data is] just great, because rather than just saying a word, it is telling a parent that these are the common patterns your child is making. So then the parents can then focus at home". Additionally, the teachers found that having detailed,

diagnostic numerical data was a useful tool for providing parents with an understanding about their child's progress. For example, Liz said that, "...the parents were absolutely thrilled with the progress that the kids had made". She explained that in part this was because it allowed teachers to go beyond reporting a single figure on a spelling test, and instead provide richer feedback to parents. This was important for students who typically didn't perform well on spelling tests. Liz said that, "...if a child had fallen down in a lower area you could say, 'well look up here. They've gone very well in these more complex ones [spelling patterns].'" A range of comments from teachers at North Bank about the value of WTW include that:

- WTW is rather clever. It breaks words up into their parts. So they can get a high score, but a pretty low raw score, by knowing all the sounds. We can sort of... we can see [the students who] didn't reach the threshold in that word area. (Thomas).

- [We do] WTW, I think is absolutely fantastic. (Liz).

- You can break [the data that records students' spelling errors] down... it's a bit more diagnostic [than other spelling assessments]. (Nola).

- South Australian [spelling test] is either right or it's wrong. And you can work it out. But the table, you look at whether the children are actually getting it... it's a wider scope... phonetically, or if they've got major other concerns. They do get bonus points for WTW. If they've got correct phonograms or initials or ending letters. (Susan)

Overall, the WTW data was considered to be useful, with teachers using it for multiple purposes including providing feedback to students and parents and informing teachers' pedagogical choices. However, teachers' enthusiasm was tempered by their concerns about the amount of time required to collect, analyse and use the WTW data. I return to Kerr's (2006) point that these kinds of responsibilities for data and improvement are downloaded onto teachers. The reality for most teachers was a burgeoning workload as they collected and activated the multitude of standardised data required by schools and the education department.

Clearly, the WTW procedures described above require a great deal of time – from learning how to administer the test through to the analysis and recording of spelling errors. Cameron described his work with collecting data such as WTW as "just trying

to keep up". Thomas, a Year 6 teacher describes the WTW data collection process in the excerpt below:

Thomas   Well *Words Their Way* is… the mark.. again the test itself is only about half an hour. But we do run both [inventories for each class], we run the upper and the lower, because the upper [test] is a significant portion of the class… To actually run the initial diagnostic was pretty involved. The delivery is a half hour per test. The marking, however, is much more laborious, because you have to go… it's just not as simple as 'tick and flick.' To do that you need to… the marking sheet is quite complex, and there is addition at the end to do it.. and then there is translating that into an excel document and then as well, in order to be able to use it in this way, then there is these days… I typically mark almost into it. So onto paper, and then into that [spreadsheet on the laptop]. I try to save time, but then in addition to entering into OneSchool, I would estimate it would take well in excess of five hours.

Nerida   Just for getting the marking to that point?

Thomas   For the two tests, yeah. And then we would typically spend at least half an hour on it at a staff meeting, then at a year level meeting, deciding which groups we will have, and who is going to be in each, and then we can effectively run it…

Returning to Thomas' earlier comment that WTW was "rather clever", the problem here is that the embodied work required took extensive amounts of time – both in and outside of class. The requirement to undertake WTW is also based on the assumption that not only do teachers have time to conduct and mark assessments; record, correlate, and analyse the data; but that they also have the time and the freedom to make use of the data by adjusting their teaching program. Thomas went on to reflect on the range of institutionally authorised data he was required to work with, saying that:

Nerida   And with that mandated kind-of testing, how much time would go into that?

Thomas   Look, honestly, it's probably only a few days for the entire year. But it feels onerous. And always. It's always. Each one takes up an entire session, plus marking time. We spend most of the first week and a half running them. We do a similar thing towards the end of

	term two. We spend at least two or three days. We do a similar
	thing in term three. And the last week of term four. We do a similar
	thing. We end up almost…
Nerida	The last week of term four? So after report cards?
Thomas	Yeah, all of that. We are still doing some more. Typically, we run
	last year's NAPLAN.
Nerida	And that is in the last week of school?
Thomas	It's frustrating because it's not only a huge amount of time. Well
	that is four weeks of teaching time, pretty much devoted to it [data
	collection].

As described throughout this section, the relentless nature of this work – "it's always. Always" is authorised by rigid timetables and procedures. A number of teachers lamented that the unrelenting cycle of data collection meant that useful data such as WTW was unable to be utilised because there just wasn't enough time. As Smyth (2006) describes, this kind of "claustrophobic accountability" that requires some actions to be undertaken, "forcefully foreclose[es] on others" (p. 304). For many teachers, this meant foreclosing on their own personal time. Thomas said that while teachers are officially paid for five hours a day, that his colleagues at North Bank routinely worked between seven and fifteen hours per day. He said that, "I do eight to ten hours every day, and I feel guilty if I leave before eight. And even then, it's a struggle to stay on top things. The workload is intense, and never, ever ending". The key drivers of this workload, according to Thomas were data collection, marking, and recording. At East Side, Theresa was similarly working on data on her nights and weekends: "But sometimes after school is when it has to happen. Because I can't track… I can't see results… I have to have time to be able to see the results and understand the results that are in front of me. So, yeah. So that's it". Essentially, teachers' work was now so fundamentally oriented towards data-for-accountability that their jobs would need to be redesigned if they were to be allocated sufficient time to make use of data for educative purposes in the way that researchers such as Marie Clay (1993, 2001) intended.

The procedures for collecting data such as WTW and the range of other assessments that are textually required at both schools, don't take into account the embodied realities of working with data. For example, Rosa described the process of collecting data for her composite class which included both Year 6 and Year 7

students. After Rosa had undertaken the process of data collection, recording and analysis for the reading comprehension test "Progressive Achievement Test – Reading" known as "PAT-R", she was instructed that the data was incorrect. Rosa had been instructed to give both her Year 6 and Year 7 students the same test [the Year 7 test], and assumed that she should mark them accordingly. After calculating "scaled scores" and "stanines" and entering the data into OneSchool, the head of curriculum instructed her to remark and recalculate the data for her Year 6 students according to the standardised procedures and criteria for Year 6 students. Having found out "after the fact", Rosa said that, "after I'd done *alllll* that work, then I had to change it… [it] would have been really helpful if someone had said that to me first". The time for Rosa to reproduce this data was significant. The instruction to recalculate the data was related to concerns about ensuring valid and reliable data. The centrality of accurate PAT-R data to North Bank is explored in further detail in Chapter 6. Rather, Rosa's disappointment at having to undertake the process of calculating scaled scores was related to the frustration of having to spend additional time working on data; and that she believed this work was largely performative and unrelated to the kinds of data that would be useful in her day-to-day work as a teacher.

5.2.4 "Losing teaching": Data at the expense of teaching (and sleep)

The focus on accountability data also served to foreclose on what teachers saw as the heart of their work – teaching students. The time spent administering and marking tests such as WTW created a hidden curriculum that privileged test taking over other pedagogical practices. As Parkinson and Stooke (2012) argue, this practice has consequences that may not be immediately obvious, such as the creation of "grade dependent" (p. 62) students who have been trained to produce work in standardised formats. In the second half of this chapter, I explore how the focus on producing data has served to reorient the curriculum, pedagogy and assessment work of teachers at both schools.

A number of teachers described how this wasn't a phenomenon exclusive to either North Bank or East Side, but that they had also experienced in previous schools. Dianna described her previous school as "data crazy", for example even when students were at sport teachers would sit by the sidelines "pulling kids out to collect more data on them… standardised testing type things". For Dianna and her

colleagues, this relentless work of collecting data was especially problematic because a great deal of it wasn't related to her own professional practice. Dianna described her frustration at spending countless hours collecting data so that it could "go up on a noticeboard" or "sit in a vault somewhere". She said that:

> all of that tracking – unless there is triple that energy put in to, in particular helping teachers to design programs, because I don't really need to know the data that that kid struggles in reading – *(whispers)* 'cause I know! How can I help him? That is where I need [to put my] energy.

Dianna's concern was that the hours of data collection is unrelated to the data that is helpful in her own professional practice. Her whisper – "'cause I know!" reflects her history of having worked closely with students and with data over a long teaching career. During her interview, Dianna described in detail the kinds of data she continued to collect as part of her professional practice, such as individual student portfolios of work that were generated over the year, which helped her to understand her students' progress. She said that the form of data required for accountability purposes was not helpful: "2/20 tells me absolutely nothing. I'd rather know if someone is using a capital letter [at the start of a sentence]". This concern about students who can perform well on standardised tests but not in other contexts was of concern for a number of teachers at East Side. Although they worked in different faculties, each had concerns about the difficulty they experienced eliciting extended responses to stimulus materials – from visual artworks to historical accounts and literary texts. But, as Teale (2008) points out, perhaps we should be unsurprised when the focus of so much literacy instruction is on decoding and assessment. The procedures described above for just one spelling test – WTW – demonstrate what Parkinson and Stooke (2012) describe as a "hidden curriculum" that privileges highly-controlled environments, standardised modes of expression, and which inevitably excludes other pedagogical practices.

Dianna's concern about where she needs help – for example professional development in reading pedagogies – indicates a lack of "reciprocal accountability" (Darling-Hammond, 2010; Elmore, 2000). Darling-Hammond (2010) describes that reciprocal accountability structures hold not only teachers to account for the achievement of a standards, but also governments and education authorities, for example by requiring appropriate resourcing and support is provided for teachers. In

Dianna's experience at multiple schools, the work of accountability was skewed towards teachers, while governments and policy makers were not held accountable for ensuring appropriate and useful support for teachers' work, for example by providing time for teachers to engage with data as part of their working practice.

Teachers at both schools identified this as a serious concern for their students. The pace of endless data collection requirements meant that teachers were collecting data but were not afforded enough time to engage with the data. At East Side, Dianna said that, "you might have that data for that [modelling and problem solving in maths]… and then you move on to the next topic. So you sort of leave that behind and you move on". At North Bank, Cameron said that, "by the time you've got the data and worked out the data, your teaching has moved on. And you try to find the time to get back and you say, 'I need to fix this.' Or change it. But sometimes it can be difficult". For Cameron, and a number of his colleagues, the pressure to produce data meant that there was no time to respond to it in ways that would improve student learning. Similarly, the rush to produce data for accountability purposes limited the time that teachers had to actually teach. Susan said that, "they don't give you time. You know, most of the units [of work] turn over in five weeks. And there is a lot of assessment… But yeah, everything is just pushed in. And then you've got to factor in camp. So you've got to cull your lessons. And keep culling". These concerns were reflected over and over again across the interviews:

- Rosa (North Bank Primary): "I never feel like I get to teach them because I'm always doing the testing… You feel like your actual teaching time is shrinking and that is the thing that is needed the most. And that part of it is stressful".
- Thomas (North Bank Primary): "It's frustrating because it's not only a huge amount of time. Well that is four weeks of teaching time, pretty much devoted to it".
- Susan (North Bank Primary): "It is mainly English and maths. It is a huge concern for everyone. We feel we're losing that teaching. And we're just pushing information through".
- Julie (East Side High): "Now if we had the time we could drill down further. We could work out which kids… which questions they actually answered well [on NAPLAN and other standardised tests], and which ones they didn't, so we would know as a class, which area to focus on…

We are given some time on the student free day, but we aren't always given time. This is the expectation is that you do it. So I did all this work, and then you rock up and then… oh! All my kids are all different. I've got a different class now… and you think, oh, well that was a big waste of my time".

- Dianna (East Side High): "… then you put it all into a spreadsheet and it all graphs it and does it. But again… we can call up any of that data on any kid. Who cares if it is just sitting in a computer? If you aren't using it. Because then also, you might have that data for that… and then you move on to the next topic. So you sort of leave that behind and you move on".

- Emma (East Side High): "From the outside you just see the number, but you can actually go into it and have a bit of a look. But I don't really have the time for that… I think sometimes, in that because there is such a push, for me, I feel as though I am kind of cramming so much information into them that it becomes very dry and they become disengaged".

- Sarnia (East Side High): "Well, I don't sleep much. Or have any kind of life outside of school. And that is mostly because I'm preparing, doing reports and filing and filling out behaviour and recording stuff on OneSchool and writing emails… and then there is a whole heap of lesson prep to do. And then there is marking. And then right at the end sometimes I focus on my actual teaching. Which is meant to be the core of my job, but it's not! *(Laughter).* So, I guess the collection of data, and recording of data. I think recording of data takes the most time. Out of all the things I do as a teacher. That takes the most time. And it does get in the way of preparing some really fun and engaging lessons. Because I don't have time. So, I guess that is the problem: how much time it takes to record all of the data. Gathering the data is not such a problem, but recording the data, and then doing stuff with the data.

For each of these teachers, there was little reciprocity in the curriculum and assessment demands that obliged them to produce data. The lopsided requirement to produce data with no affordance for camp, or for students who take a little longer to complete assessments, or even for sleep, caused a great deal of stress to teachers at both schools. This reorganisation of work that detracted from the quality and time available to teach was a source of stress for teachers. Nola summarised the difference between her early days of teaching and now:

Because you did your own assessments, but more importantly, you taught. You know. You were interacting with the kids. You had your finger on the pulse *(taps desk to indicate finger on the pulse)* of every kid. And then you were bombarded with all this new stuff: new curriculum; C2C; blah blah blah. You are just struggling with that. And then your data becomes… and it's all about… everyone's got to do this. They just throw *this* on your plate. And they throw *that* on your plate. And… and… so that is where the stress has come from… Instead of being bombarded, can we just hold on? Can we just have it a bit at a time? Just to get our heads around it? Be proficient at, 'why are we doing this? And what are we going to do with it?' That is the crunch.

This "crunch" of not having time to become proficient; to analyse, reflect and use data; or to respond to data is at the heart of the "fault line" between the lived reality of working with data and institutional and media discourses about teachers' work with data. The assumptions about the utility and objectivity of standardised data that is used for accountability purposes is at odds with teachers' experiences of working with data that was driven by accountability demands. Even when a data set was considered to be useful, teachers were afforded no time to collect, engage or respond to the data in meaningful ways, leaving both new and experienced teachers at both schools to wonder "why are we doing this?" As Sarnia said, the "actual teaching" which is meant to be the "core" of her job, is not. The core of the embodied work – which occurs during school days, at nights and on weekends – is the recording of data for accountability purposes. Although the time-consuming, institutional demands described above took time, the range of decisions made by principals (as described in Chapter 4) impacted the actualities of teachers' work in multiple ways. The reminder of this chapter takes a broader look at how the ruling apparatus' use of data to achieve neoliberal ideals such as marketisation and new public management were experienced by teachers.

5.3 THE REORGANISATION OF TEACHERS' WORK

In this section, I explore how the decisions made by principals (see Chapter 4) required teachers to undertake various forms of work at the local level. The demands to ensure improved data that cascaded from governments into schools led school principals to implement local, school-based policies that included the collection of

additional data, mandating "high yield" pedagogies and curriculum choices and a requirement for teachers to "take responsibility" for data by organising social relations around data. In this section, I unpack how these decisions were experienced by teachers at East Side High and North Bank Primary.

5.3.1 The rise of "data conversations"

As described in the preceding chapter, "data conversations" and other meetings about data were commonly mandated by school leaders in response to institutional demands for data improvement. The use of data as a basis for professional discussions about teachers' work was also evident in the accounts of teachers from both North Bank Primary and East Side High. At the local level, this organisation of social relations around data occurred variously, from whole school staff meetings, to year level and faculty meetings and individual meetings between teachers and school leaders.

Although NAPLAN data was released to both school administrators and teachers via the online portal, it was at staff meetings that teachers at both schools reported becoming highly aware of NAPLAN data. At North Bank Primary, I attended several staff meetings and professional development sessions where NAPLAN data was used to discuss the school improvement agenda. This included meetings with all school teaching staff as well as smaller meetings such as year level meetings and meetings with a "data team". The data team comprised teachers from each year level and met regularly to analyse and talk about data, as well as to make decisions about what additional data should be collected in response to existing data, notably NAPLAN. A desktop review of a sample of publicly available school reports across the state reveals that the emergence of school-based "data teams" was not limited to North Bank Primary. At North Bank, the data team met regularly (approximately every fortnight) throughout the year, and was central to the production of further school-based texts in response to NAPLAN. The operation of textually-driven school-based institutional circuits of activity was explored in Section 5.2.

At both East Side High and North Bank Primary, the teachers I talked to spoke extensively about the prevalence of NAPLAN data as an organiser of staff meetings. Discussions about how both school and individual student level NAPLAN data could be improved through teachers' efforts were common. Although any detailed exploration is beyond the scope of this research, it is worth noting that at East Side

High, senior school exit data was an additional form of data that was frequently discussed amongst teachers, between school leaders and teachers, and between teachers, students and parents.

The growth in data conversations seemed to have infiltrated all levels of schooling, with the principal at East Side describing that the main role of heads of department in the school was not only tracking data, but also "giving information to teachers around conversations they have. Because he can't have all the conversations, but he can make it easier for staff by giving them data". This focus on ensuring all teachers were engaged in so-called data conversations was central to the work being carried out by teachers as they prepared for, engaged in and responded to data conversations. Often, the talk about NAPLAN data began in whole staff, faculty or year level meetings as a report from a member of the school leadership team (such as the principal, a deputy-principal, head of department or head of curriculum). At East Side, one teacher explained that:

> [At staff meetings, the principal] is talking about results in terms of NAPLAN and how we compare to other schools in our district or region. Year 12 [senior schooling data] and results and how we compare and what we need to focus on in order to improve the results. Yeah, but it is mostly about student results. And comparing. Hmmm.

Here it becomes clear that the discursive construction of numerical data as an objective means of quantifying student achievement makes subsequent actions such as the making of comparisons possible. Thus, the discursive construction of statistics as inherently trustworthy and objective are heavily linked to neoliberal moves such as the quasi-marketisation of education, in which schools are compared and compete for customers (via parental choice). However, this kind of talk is also linked to other neoliberal policy technologies including managerialism and performativity. Listening to teachers' recollections of staff meetings, it became clear that the discursive work of comparison and judgement altered subjectivities. English teachers at East Side were highly aware of both symbolic and material rewards that flowed on from the achievement of "good" NAPLAN data. In the excerpt above, the comparisons were used to represent both school and teacher quality. The use of NAPLAN data in public conversations was a form of "managerial panopticism" (Ball, 2003, p. 220) that left English teachers at East Side feeling "ontologically insecure" (p. 220). Emma, a Year

9 English teacher described her embarrassment and disappointment when NAPLAN results were issued each year; and the humiliation she experienced during public discussions at staff meetings saying "you go, 'oh no, look at my class.' They look totally hopeless compared to, say, the peak, elite class over here. You know, that can be a little bit… *(Emma gives a sad look)"*. The fact that Emma had taught a class of students who had been grouped together according to poor NAPLAN and other in-school student achievement data, did not alleviate her guilt when her class was compared to the "peak, elite class" who had been similarly been ability-grouped according to student achievement data. Rose (2003) describes the creation of "visibilities" and "embarrassments" as a form of governmentality that is achieved through the "calculated administration of shame" (p. 73). Fear, shame and feelings of inadequacy were described by a number of teachers at East Side. This was particularly palpable amongst teachers in the English faculty because NAPLAN's literacy domains were most commonly aligned to the work of English teachers. Data conversations at East Side also spilled out into discussions amongst teachers, providing further examples of what Ball (2003) describes as the "terror of performativity".

Teachers talked about where their students "should be" (NAPLAN level this or that) in relation to data; where their own classes "should be"; and how they themselves "should be" spending their time. This moral dimension of the relationship between data and teachers' work created a great deal of anxiety and guilt amongst teachers. Teachers frequently compared themselves to others, often describing feelings of hopelessness and guilt when compared to teachers whose work was considered to meet various normative standards. Emma went on to describe the way in which neither she nor her colleagues were able to attain the standards of the ideal, normative teacher:

Nerida	So for you, the most significant conversations come out of staff meetings?
Emma	Definitely.
Nerida	And do you then have conversations with other teachers?
Emma	Yeah, just in the staff room, we might talk about things. I might say, 'did you know how to do that?' 'No I didn't' or discussions like that.

Nerida	What about the pressure you talked about earlier? Is that something that is spoken about among the Year 9 teachers?
Emma	Yeah it is. And in all honesty, it is always – sadly – people are just feeling like they're not doing a good enough job. Mmm. And yet they are. They are great teachers. They are doing a really great job. But, there is just a general feeling that we're not getting there. Not getting where we need to be.
Nerida	Not getting the result…
Emma	… That the school wants. Yeah.
Nerida	Do you think the school is aware of that feeling?
Emma	I think… I think it was two years ago when one of the Year 9 teachers started crying and saying she felt really, really pressured, they probably did then. But, yeah… maybe not to the extent of what is being felt now.

It was clear that the performative pressures teachers felt were linked to the conversations in schools as principals and school leaders such as heads of department activated NAPLAN data and associated texts that translate NAPLAN data into an outcome of teachers' work. In Emma's words, this left teachers with the feeling that "we're not getting there". As Ball (2003) describes, the technology of performativity "is a mechanism for reforming teachers" (p. 217). The emergence of work in which teachers meet to discuss data is enshrined in several policy texts in Queensland such as the then Teaching and Learning Audit which stated the expectation that outstanding schools have an explicit improvement agenda in which:

> The principal and other school leaders have developed and are driving an explicit and detailed local school improvement agenda. This agenda is couched in terms of specific improvements sought in student performances, is aligned with state-wide improvement priorities and includes clear targets with accompanying timelines, which are rigorously actioned (p. 1).

As described in Chapter 3, I note that the Teaching and Learning Audit tool grew out of the so-called "Masters Report" (2009) that was commissioned to investigate Queensland's poor performance in the first round of NAPLAN testing. The audit tool was also to assess, under the heading "Analysis and Discussion of Data" whether:

> Staff conversations and language reflect a sophisticated understanding of
> data concepts (e.g., value-added; growth; improvement; statistical
> significance).
>
> Teachers are given test data (including NAPLAN) for their classes
> electronically and are provided with, and use, software (egg, Excel) to
> analyse, display and communicate data on individual and class performances
> and progress, including comparisons of pre- and post-test results.
>
> Teachers routinely use objective data on student achievement as
> evidence of successful teaching.

Power (1999) has described the use of audits as especially powerful because they possess "a special versatility in which submission to audit establishes legitimacy regardless of the operational substance of audit" (p. 304). Power argues that the audit process highlights risks and dangers, thereby enabling and justifying managerial controls. In this way, he argues, "the possibility of leaving groups and individuals to themselves, is literally unthinkable" p. 314). The "Analysis and Discussion of Data" section of the audit tool (p. 2) makes it clear that teachers' participation in work such as discussing literacy and numeracy data, which is discursively positioned as "objective…. evidence of successful teaching" is necessary. By naming practices such as "conversations" and "language" about data, and linking them to the identification of gaps in learning, these forms of work become routinised, transferring responsibility for student data onto teachers. This transference of responsibility onto teachers is evident in multiple institutional texts. For example, the QCAA's August 2014 newsletter, which was sent to all schools across the state, and to be made visible for all teaching staff during the release period suggested that, "the most powerful use of the NAPLAN data is as the basis for professional discussions which build capacity within schools" (p. 2). Similarly, the Teaching and Learning Audit assessed schools on the extent to which:

> Teachers take responsibility for the changes in their practice required to
> achieve school targets and are using data on a regular basis to monitor the
> effectiveness of their own efforts to meet those targets.

This document makes clear how the extra-locally produced requirements mandated in "state-wide improvement priorities" enmesh teachers' work and data-driven accountability. The "downloading of responsibility" (Kerr, 2006, p. 132) for data improvement adds to teachers' work as they are required to not just make efforts to

improve data but also to "monitor the effectiveness of their own efforts". This additional work remains largely invisible, and is certainly not reflected in teachers' industrial agreements. The linking of data to performance management (see Chapter 4) also meant that teachers were required to explain data during professional conversations in the performance management process for teachers. The annual review process requires that:

> Refection on teacher performance will come from multiple sources and include, as a minimum, data showing impact on student outcomes, information based on direct observation of teaching, and evidence of collaboration with colleagues (Queensland Government, 2014d, p. 3).

Although this conversation about data is in itself a form of work, what was more time consuming for teachers was the requirement to prepare for these sessions by collecting and analysing data in order to demonstrate effectiveness. Nola said:

> You have no idea how much time I spent at nights and on weekends. Yeah... But we do have that [performance management conversation] coming up. *(Resigned voice).* Yep. But you know, when you see that, you think… *(very quiet and sad sounding)* you know… what's the point? What-is-the-point?

Prior to discussing the performance management process, Nola had expressed her confidence in her ability to teach curriculum content, but felt it was sometimes difficult to set and attain goals, using various forms of data to justify her professionalism. Nola's account revealed that she was already having difficulty finding time to plan and deliver interesting lessons that covered all curriculum areas as well as meeting administrative demands to collect and respond to data in this way. Thomas also reflected on the "huge amount of work" required to collect data on himself for an upcoming performance review. He went on to explain that:

> Well I have to go to a performance review… Probably next week… I think it's absolutely fine to self-analyse, to look at more ways to improve, and to set goals. But… we are not a typical business.

Thomas went on to explain that in an institutional landscape driven by numbers and accountability, or what he described as a "liberal-free environment", his concern was not a refusal to engage in professional learning and growth; but rather that the process took up a great deal of time while disregarding his concerns about equity, fairness and the nature of teaching.

Growing concern amongst teachers over the rise of discussions and conversations about data as a form of work has recently been addressed in a position statement on data by the Queensland Teachers Union (Queensland Teachers' Union, 2015) which describes "data conversations" as an emerging form of work for teachers across the state. The concerns of both the teachers' union and the teachers in this study related to the time required to prepare for and participate in data conversations, as well as a desire to retain a focus on teaching and learning rather than data improvement.

5.3.2 Collecting and recording additional data

A key form of work that was mandated at both schools was the collection of additional forms of data using standardised formats, recorded electronically and according to standardised timeframes (for example as required by the North Bank Assessment Calendar, described in Section 5.2.1). According to teachers at both schools, the collection of locally mandated forms of standardised assessments, most commonly in literacy and numeracy, that needed to be administered, graded and recorded electronically using standardised procedures and timeframes was a growing phenomenon. Here I note that the teachers I talked to described long histories of having collected a range of data across their careers, but that these had not been recorded electronically and often had not been used for accountability purposes. Instead, teachers had collected data at their own discretion to inform their professional practice. This freedom of decision making and reporting meant that data could not form textual links to ruling relations. Returning to Smith and Turner's (2014) definition of texts that are able to organise lives beyond local settings, texts must be standardised and replicable, they argue, in order to become "deeply and yet undramatically" (p. 4) part of objectifying ruling relations. The standardised and mandated forms of data teachers are now required to collect are able to become part of the institutional circuits that regulate teachers' work.

This change, driven in part by new technologies such as the introduction of OneSchool and the "C4T" ("Computers for Teachers" policy that provided all public-school teachers with a laptop) meant that teachers no longer simply generated data to meet their own professional needs, but now produced and reproduced standardised texts that were centrally recorded. Susan at North Bank Primary described that "it's gone from being everything handwritten, and no computers to expectations to have all the data done in a timeframe". A key difference for Susan

between current practices and her work in years gone by wasn't that data collection was new, but rather that it was no longer at teachers' discretion, and was now tied to institutional accountability mechanisms. Susan said that, "And now it's completely different… Everyone has to have everything recorded". By recorded, Susan is referring to the inscribing of mostly numerical data in an electronic format for accountability purposes, as described above in Section 5.2.1. The production of reliable, reproducible, standardised and comparable numeric "facts" that were used as part of new public management processes is a significant shift from the individual, paper-based recording of data that teachers had undertaken in years gone by.

In addition to administering standardised tests in class, other less obvious forms of work were required to meet local data collection requirements. For example, teachers needed to know how to enter data into electronic forms and databases; generate spreadsheets and the like. At one staff meeting I attended at North Bank, two senior teachers spent an hour providing professional development to staff, covering information such as how to access, create and populate NAPLAN spreadsheets broken down by:

- Individual student responses to "items" (questions) (colour coded, for example cells shaded green to indicate correct answers);

- Year level reports broken down into categories such as gender, Indigeneity and language background

This new knowledge was now required by teachers at both schools, although teachers reported that they were provided with insufficient time to acquire the knowledge or undertake the work. The required knowledge was complex in that it required an understanding of statistical, technical and professional knowledge ranging from how to generate and manipulate spreadsheets, to how to sort results, calculate means and correlate results with NAPLAN test questions. The importance of statistical knowledge in accountability processing interchanges is explored in further detail in Chapter 6. The various standardised tests mandated at both schools required teachers to know and apply knowledge in areas such as how to calculate and understand "effect sizes", "stanines", "raw scores and scaled scores" and the like. Teachers also needed to learn how to access, create and generate spreadsheets using complex formulae and processes. For example, Rosa described the process for collecting standardised data such as PAT-R as:

> Yes, they have to do it first. *Then* you have to mark it. *Then* you have to use a table and work out what their score is and convert that to whatever stanine and their scaled score… it takes a while.

The push to collect data in formats and timeframes that met institutionally mandated requirements also changed the way teachers were able to engage with data. Rosa explained that the push to collect data meant there was little time to respond in meaningful ways. The issue of teachers describing that they spent extensive amounts of time collecting and uploading data into accountability systems, but then not having time to seriously engage with it because of subsequent cycles of accountability is explored below and in Chapter 6.

5.3.3 Basic skills literacy

Although teachers lamented the intrusion of data collection into their teaching time, NAPLAN data also served to reorganize the doings of teachers as they undertook face-to-face work with students. As described in Chapter 4, a key response from school principals was to mandate a curriculum and pedagogic focus that would orient teaching towards the performative demands to improve NAPLAN data. At East Side High, the teachers in the English faculty in particular described NAPLAN data as a significant organiser of their work since the majority of NAPLAN data (four of the five NAPLAN "domains" – reading; writing; spelling; grammar and punctuation test literacy) were seen to be directly related to the English faculty. Teachers outside of the English faculty were also required to teach literacy, with a focus on the literacy and numeracy that would be tested on NAPLAN. This was evident in the talk of teachers as they described their work when assigned to the so-called "NAPLAN years" (Years 7 and 9) and in the year preceding NAPLAN (Year 8). As Julie (a Year 9 to 12 teacher) explained, "there is a huge focus on NAPLAN". Julie went on to explain how the edict to ensure NAPLAN data was prioritised changed her own curriculum and pedagogic decision-making:

> Julie   … the 'do now' [activities] that we do now are specifically meant to target literacy, and that's with the aim of, I guess, improving NAPLAN data. And Grade 9, I would always have… I always go back to past tests, you know, the little books you can get in the supermarkets, the shops, and choose exercises, and specifically get them ready for NAPLAN.

In addition to the mandated pedagogic activity that Julie undertook (such as the so-called "do-nows" that were instigated as part of the success school project), her decision to regularly undertake multiple activities aimed at improving NAPLAN data changed both her day-to-day curriculum and pedagogic work. The role of edu-businesses that produce the "little books you can get in supermarkets" should also be noted. Recall that edu-business such as Pearson are heavily involved in the process of NAPLAN testing through complex contractual arrangements (Hogan, 2014). A walk through a shopping centre in many Australian cities reveals the complexity of corporate links to education through NAPLAN. As Julie noted, supermarkets, newsagents, bookstores and post offices commonly sell NAPLAN style practice tests that parents and teachers are encouraged to purchase as a means of preparing students for testing. Here I also draw attention to the early discursive work of ACARA's and media agencies' suggestions that over-preparation of students was not widespread and not warranted (e.g., Ferrari, 2014a; Randall, 2014b). The use of proprietary products at the school level was picked up in the preceding chapter, and was also evident in the analysis provided in the first half of this chapter (see Section 5.2.1) as well as in the following chapter. Returning to the organisation of curriculum around NAPLAN, Julie went on to say that:

> Julie   Yeah. So we look at our curriculum, and our curriculum is targeted specifically for NAPLAN. To me, the transference from reading to comprehension of the written form is one of the big things I always try and concentrate on. Being able to yes, comprehend the texts and have a conversation with someone, but transferring that to writing down the answers or answering is probably one of my biggest things, because I know that once ... those year twos start going up to year three and they get hit with multiple tests and NAPLAN, if they haven't been exposed to… 'I read this, I answer the questions by writing it down...' We've also been adding multiple choice answers into our tests that we've been writing for the curriculum, so using that as a way to inform whether they understand what they're doing or not.

The description of curriculum, pedagogy, assessment and homework that were oriented towards preparing students for NAPLAN is striking, exemplified by Julie's metaphor in which teachers must prepare students who will be "hit" with multiple

tests and NAPLAN. Decisions about reorganising curriculum and pedagogy were often taken by teachers working together and planning with their colleagues (across the same year level at North Bank Primary and in the same faculty at East Side High) in response to the leadership team's insistence on data improvement. Teachers were made aware that data improvement was a priority during meetings and discussions, as well as via school documentation such as the Literacy Committee Role Statement (see Section 5.2.2). Planning for each of the year levels leading up to a "NAPLAN year" was organised according to NAPLAN, as were individual pedagogic decisions such as how to teach students so they could transfer their knowledge in test-taking situations.

Assessment was not only organised to ensure familiarity with the NAPLAN test structure, but also to provide students with additional opportunities to rehearse the kinds of questions that might appear in NAPLAN. As such, teachers at both schools reported spending significant amounts of time with students teaching and assessing basic skills literacy, and familiarising students with standard NAPLAN test layouts. Returning to the directives from principals as described in the preceding chapter, Julie's description of her work might be described as the kind of "high yield" pedagogic strategy that education department bureaucrats, regional directors and principals were seeking in their attempts to bring about rapid improvements to NAPLAN data.

As might be expected, teachers held a range of views about the reorganisation of their curriculum and pedagogy towards the preparation of students for NAPLAN testing. Sometimes, teachers described this work as helpful and important because it provided students with knowledge that would improve their performance on NAPLAN tests; whilst others believed it had narrowed curriculum choices. For example, at North Bank Angie said that:

> … in amongst our literacy program, because we have C2C [the education
> department's lesson planning and delivery for the Australian Curriculum]
> and we've had NAPLAN – that's been a huge impact on our delivery of
> English in the school. NAPLAN, because we've been focussing on
> persuasive text and I was really proud of my guys.

Like Angie, most teachers held a range of views on NAPLAN data and student preparation, and were not uni-dimensionally opposed to NAPLAN. Here I note that

principals were also not unilaterally opposed to NAPLAN. For example, in one of the meetings described in Chapter 4, the principals and deputies in attendance had agreed that NAPLAN had sharpened the focus on student achievement in their schools, with an emphasis on ensuring all students achieved basic levels of literacy and numeracy.

The common sense truths about how teachers should respond to requests to focus on NAPLAN data was evident in the talk of teachers at both schools. Justin, a Year 7 teacher, described how he would work NAPLAN in to his day-to-day teaching. He described how he would tell his students:

> '…oh this is what a past test is like… let's go through it… oh here's how you colour all the boxes.' Because you still get kids when you do practice ones who haven't coloured in all the boxes in a multiple choice. So that's really important and helps with the data. I guess that's where pretesting and it is about having a look at it, and allows you to make sure that what you are doing gets the best results for the kids, which gives us the best data.

Ensuring that his kids got "the best data" was important, and required extensive work from Justin and his Year 7 colleagues. Students in Year 7 were still sitting practice NAPLAN tests to ensure they knew how to maximise their NAPLAN scores, for example by ensuring no multiple choice question went unanswered. Returning to the translation of NAPLAN data and the public discourses that deride teaching to the test, it was clear that many teachers – like Justin, Susan and Angie – held genuine concerns for their students and wanted to provide what they believed to be fair test preparation.

While the media and bureaucrats (see Section 4.2) promulgated a view that "excessive" test preparation was unwanted, evidence is emerging that indicates these are now widespread practices. In a national survey (n= 8353) of teachers conducted by the Whitlam Institute (Polesel et al., 2012), teachers were asked if "their own teaching practice had been altered to emphasise areas covered by NAPLAN, and whether they taught to the test" (p. 28), with approximately eighty per cent either agreeing or strongly agreeing that this was the case in both instances. Although the "skill and drill" practice that newspaper articles often pointed towards was evident at both schools, teachers identified a range of work that they regularly undertook that was aimed at preparing students for NAPLAN. Another key form of work that

teachers from Year 2 to Year 9 described was the work of preparing students for the NAPLAN writing task, which was labelled by multiple teachers at both schools as "doing persuasives".

5.3.4 "Doing" persuasives

To assist teachers to prepare students for the NAPLAN writing task, ACARA, state authorities such as the Queensland Curriculum and Assessment Authority (QCAA) and edu-business release a proliferation of supporting material that are oriented towards the requirements of NAPLAN testing. Exley and Mills' (2015) analysis of the NAPLAN writing task found that the one particular prototypical generic structure tested on NAPLAN was taught in preference to a range of other possible structures. Yet, improving NAPLAN writing data is complex, as exemplified by the history of NAPLAN testing. From 2008-2010, NAPLAN writing tests required students to produce a narrative text in response to stimulus material. In 2010, it was announced that the prescribed generic structure of the writing task would change. According to the National Assessment Program website at the time:

> The change to the persuasive genre was approved by ministers in 2010 following extensive piloting. The new NAPLAN Writing genre was introduced to avoid a narrowing of the curriculum through a disproportionate focus on writing narratives at the expense of other genres.

From 2011, the newly prescribed generic structure required students to construct a persuasive text. However, the same criticisms that were levelled at the extensive curriculum reorientation towards teaching writing using narrative genre pedagogies soon emerged. Reports about over preparation of students appeared in the media (e.g., Chilcott, 2013) and in academic research (e.g., Ryan & Barton, 2013). Although it was reported that writing was being taught using the prescribed NAPLAN generic structure, NAPLAN data trends indicated that "the writing component consistently receives the lowest scores" (ACARA, cited in Ryan & Barton, 2013, p. 71). Research such as that undertaken by Exley (2010) and Frawley (2014) have also pointed to the difficulties of teaching writing in high-stakes testing environments. In 2013, ACARA announced that the writing task would no longer be disclosed prior to testing, but that students would be required to "respond to either a persuasive or narrative writing prompt" (QCAA, 2013). The change led to an overall decline in writing scores across the country. ACARA (2014c) admitted that this was

partly because "for the first time, schools were not told in advance the style of writing that would be tested – persuasive or narrative – requiring students to be prepared to answer one or the other".

Despite this change in 2014, teachers at East Side and North Bank continued to teach writing in ways that would maximise time spent on the genres tested by NAPLAN. This alignment between curriculum, pedagogy, school-based assessment, homework and NAPLAN was evident across both schools. For example, Susan described how textual requirements in NAPLAN were explicitly linked to year level decisions, as well as her own decisions about how she would teach writing. Echoing the decisions of others at North Bank, Susan said that:

> Having come from NAPLAN grades before, we used to… like if they
> [ACARA] said it was a narrative, we [teachers] would have specialised
> writing groups. Then they said it was persuasive and that's what you'd do.

For Susan, it was taken-for-granted that pedagogy and curriculum must be adjusted in response to changes in NAPLAN test requirements. This insistence upon teaching NAPLAN generic structures was echoed by teachers at both schools from Year 2 to Year 9. For example, teachers said that:

- And so by having a bit more *(imitates casual speaking with students)…* like …. ' oh let's do a bit more on narrative…'
- [For their assessment task], they had to write a persuasive. Some sort of NAPLAN.
- When it was persuasive, we have a persuasive at the end of Year 8, we have a persuasive at the start of Year 9. So they know persuasive techniques and they should do well. If it's narrative, then oh well, narrative at the beginning of Grade 9. So we design our curriculum accordingly.
- [We] would be preparing them, so much so that we have our assessment is designed that we do the genres that will be on NAPLAN.
- … we've been focussing on persuasive text…
- People feel very comfortable teaching …well persuasive texts, for example. Because they've had a lot of experience with it.
- Well with NAPLAN, we found years ago that we needed to focus on writing with our kids. And for several years then… Because you know,

we really focussed on the writing. And that was really – that showed to be really effective.

- We try and work out, especially with the writing. We try to get them used to writing enough [for NAPLAN].

The extent to which curriculum, pedagogy and assessment across all domains was oriented towards the generic structure of NAPLAN was striking. The regime of truth in which teaching NAPLAN writing was the dominant mode of teaching writing was also evident in the institutional textual chains that were set in train as school leaders activated NAPLAN data. For example, the North Bank Primary Curriculum and Assessment Overview requires persuasive writing to be formally assessed (for the purposes of student report cards) in Years 2, 3, 6 and 7.

5.3.5 Doing "other things"

The dominant approach of orienting curriculum, pedagogy and assessment towards NAPLAN had ramifications on what was possible to say and do in the discursive space of schools. At both schools, there were a number of teachers who intentionally resisted the discourse and approach of what they called "teaching to the NAPLAN". Yet even in these cases, the extent and enmeshed complex of textually-coordinated ruling relations meant teachers still undertook remarkably similar practices of orienting curriculum, pedagogy and assessment towards the demands of NAPLAN. For many teachers, work was only considered to be oriented towards NAPLAN if it was explicitly tied to teaching test-taking skills (such as teaching students how to complete multiple choice answers or shade bubbles on the test). However, in talking through how their work was organised, it was clear that in many cases, curriculum, assessment and pedagogic choices *were* textually tied to NAPLAN data. As Smith (1990b) has described, many of the texts that are integral to the exertion of power by the "ruling apparatus" (p. 161) will not be visible to frontline workers such as teachers.

For example, Sarah, a teacher on a NAPLAN year level (Year 5) at North Bank Primary was explicitly opposed to teaching to the test. Her ideological beliefs were a significant part of the reason Year 5 was the only year level at North Bank that were not required to formally assess the persuasive genre (as required by the school Curriculum and Assessment Overview). Yet, as she described her work, it became

clear that a great deal of the organisation of her work was oriented towards improving school level NAPLAN data:

Sarah	… I actually don't believe in NAPLAN. Year 5, we do not teach anything to do with the writing.
Nerida	Really? That would be unusual…
Sarah	Nope. I don't believe in it. I think that if kids…like if this is the best they can do, then yes, that is the best they can do. We teach nothing for NAPLAN in Year 5. We never have, and we never will. Because we don't believe in it.
Nerida	Does that come partially from Debbie [the principal]?
Sarah	She might not know. But she's never come and said, 'you will teach it.'
Nerida	Because there are definitely schools were you would have to do that. It would be mandated.
Sarah	And yet, why do we do so well then? Because we are doing other things. We teach. We've arranged our C2C units around it, like around persuasive [genre] and stories. So we have done other things, rather than explicit teaching for NAPLAN.

In Sarah's words, the fact that the principal "might not know" and has never issued a directive about explicit teaching to the test indicates her strongly held belief that her work should not be organised around the demands of NAPLAN. In this passage, Sarah's insistence − repeating three times − that she "doesn't believe" in NAPLAN is somewhat in contrast with her reported teaching practice. She quickly moves to describe how curriculum choices are in fact configured around the demands of NAPLAN. Her reference to teaching persuasive and narrative genres for writing can be linked directly to the NAPLAN writing test. As she describes it, she has worked with her year level colleagues to ensure that the content of NAPLAN is planned for and taught.

At East Side High, Dianna, a Year 7 teacher was concerned that the focus on teaching "persuasives" throughout primary school had led to a situation in which students found it difficult to construct texts outside of the persuasive genre by the time they reached Year 7. In her opinion, "[students] are trying to persuade you every step of the way. So, I think it is a risk of overdoing something. You know… I just say to them *(sounds exasperated)*, 'I'm not asking for your opinion!'" Yet, after

describing her efforts to teach literacy and writing "every single day" rather than prepare her students for NAPLAN, like Sarah at North Bank, Dianna also quickly returned to how her curriculum was oriented towards NAPLAN. She said that, "you know, I'd like to think that I'm getting kids ready for NAPLAN for Grade 9 already. And that it's not just something in the weeks before". In similar ways to Sarah at North Bank, Dianna's rejection of NAPLAN preparation was in contrast to her reported practice, in which she believed she was preparing Year 7 students for a NAPLAN test they would take in Year 9.

Dianna linked her work, for example teaching students to see a [test] question, and construct sentences that would provide a justification ("thinking about it and justifying it") to NAPLAN. As she said, this work would prepare students to sit a NAPLAN test in two years' time. What is interesting in the cases of both Sarah and Dianna is that despite being in different schools their talk about curriculum choices tended to be oriented towards the requirements of NAPLAN (for example, teaching persuasive writing techniques) even though they were both philosophically opposed to teaching to the test. In this way, it becomes clear that teachers' knowledge about data, curriculum, pedagogy and assessment are historicised in that they exist within the current historical context, or episteme (Foucault, 1969/2002). The discursive conditions in which teachers' work shapes what can be known, said and done. Even when teachers actively resisted the dominant discourses about data-driven teaching, there were few opportunities for the institutional demands identified above and in Chapter 4 to be sidelined. Rather, data conversations and performativity were normalised, and had become part of the fabric of teachers' work. In Foucauldian terms, the ensemble of practices include adjusting curriculum, pedagogy, assessment and homework around the demands of NAPLAN, is grounded in local epistemic truths, even for teachers who had explicitly rejected NAPLAN and resisted test preparation.

5.4   DISCUSSION

This chapter has explored how NAPLAN data – both the numbers and their translation – are central to ruling relations because the activation of texts that return NAPLAN data to school lead to subsequent courses of action that dominate teachers' time. As the analysis in Chapter 4 indicated, many local leadership decisions about curriculum, pedagogy, assessment, meetings and school structures hinged around

departmental directives to improve NAPLAN data. The multi-faceted impact on teachers' work was exemplified by the head of curriculum at North Bank Primary who explained:

Jennifer   I guess my life revolves around data these days. It has to because it is everything. We are all accountable. NAPLAN data. Even though NAPLAN isn't the be-all-and end-all, it really is. *(Laughter).* So schools are still judged on their NAPLAN data… Always. It is always the undercurrent I suppose, looking at ways to get our NAPLAN data up. Looking…

Nerida   … even better?

Jennifer   Yeah, even healthier.

Nerida   And yours would probably be one of the schools that would be considered pretty healthy?

Jennifer   It's looking pretty healthy in different aspects. So with our reading program, that's helped with our reading data. It's looking really at that and that has helped that out. But we've still got other areas to work on. Our writing data is healthy, but it could be healthier. And I think it really doesn't matter which school you are at. There is always that push for your data to be better. Even though you might have really good data, there is the pressure on to get that data looking even better. So, it is all about the school improvement agenda and what we can do to improve our outcomes for our kids. It's not our… I wouldn't say it is our driving force, but it certainly leads us in the directions that we are expected to go. So, our driving force is our kids and helping them with different strategies and skills that they need to do well in all aspects of their schooling. But, underpinning that is the NAPLAN.

Jennifer's belief that NAPLAN was underpinning her work, and that there was always pressure to do better was not created in a vacuum. The vivid metaphor of data as having a life of its own – needing teachers to sustain it; keep it healthy; make sure it looks good – appears over and over in Jennifer's words, and provides insight into teachers' embodied experience. As the analysis in both this chapter and Chapter 4 demonstrated, complex intertextual demands were at play that insisted data must be a focus at the local level. In this chapter, I have explored how teachers like Jennifer have reached the conclusion that their work not only revolves around data, but that

"it has to". In considering how teachers' work is linked to various texts that pick up on NAPLAN data, my aim was to consider how data orchestrates teachers' everyday work, for example in the reorientation of curriculum and pedagogic choices towards the literacy demands in NAPLAN, and the production of additional numerical data required at the local level.

The organisation of teachers' time was paramount to the analysis in this chapter. For Griffith and Smith (2005, pp. 47-48), time is fundamental to the generous definition of work applied in institutional ethnographies. Describing the complementary educational work of mothers in supporting their children at school, they write that "there is no recognisable economy of women's time as mothers. It has no monetary value and is not recognised as taking time… Hence not having time is no excuse for failures…" (p. 48). Similarly, many teachers in this study lamented both the lack of time to do everything that was required with data, and the lack of recognition of "the time it takes". Comber's (2012) provocation: "what gets lost in the intensification of teachers' work associated with testing?" (p. 126) requires an understanding that time is finite; and that spending time on testing, data collection and other associated accountability work reduces the time available for alternate forms of work. Parkinson and Stooke's (2012) institutional ethnographic inquiry into the work of two literacy teachers in Ontario similarly found that teachers' work was largely comprised of literacy assessment tasks, although both teachers described these tasks as "unwanted and unwarranted" and outside of "the real work of teaching" (p. 59).

Nevertheless, literacy assessment texts were powerful organisers of teachers' time, bringing to mind Apple's (2004b) notion of "the hidden curriculum". As this chapter has described, the textually authorised work of gathering, analysing and responding to data occurred regardless of teachers' opinions. This was work that took significant amounts of time. A 2015 survey by the Queensland Teachers' Union (n=500) in which primary, secondary, combined and special school teachers across the state were asked "what they believed were the biggest time wasters in their professional lives". According to the union teachers responded with "remarkably similar" comments:

> The number one time-waster was data for data's sake – the excessive
> gathering and reporting of data, including standardised testing (particularly

NAPLAN). Five-week data cycles were often noted to be unnecessary and unrealistic, as were data walls and placemats (QTU, 2015).

Other forms of "time wasting" work nominated by teachers in the survey were data entry, the use of unreliable technology, requirements to enter data on multiple IT platforms and meetings. As explained above, the rise of these forms of work as a significant organiser of teachers' time was also significant for the teacher informants in this research. Many teachers reported that this work was often undertaken on weekends, at nights and during holidays. Much of it also happened in cyberspace, with teachers logging in to email and the departmental database from a range of geographic locations. It is worth noting that in Queensland, industrial agreements specify that teachers' work 25 hours a week "rostered duty time" which includes time in class with students as well as and other associated work such as lesson preparation time away from face-to-face classroom teaching (QTU, 2014a). The vast majority of this time is allocated to face-to-face teaching with full-time secondary school teachers rostered to work 20 hours and 40 minutes per week and full-time primary and special school teachers working 22 hours and 10 minutes per week.

It is clear that despite industrial agreements, the boundaries of what constitutes teachers' work are not restricted to face-to-face teaching and associated duties such as supervising students during lunch breaks. Another recent report (Renshaw, Baraoutsis, Kraayenoord, Goos, & Dole, 2013), commissioned by the Queensland College of Teachers that sought to investigate how teachers were meeting the Australian Professional Standards for Teachers (AITSL, 2011) requirement that teachers and school leaders "collect, analyse, interpret and use systemic and classroom data to support and improve students' learning" (p. 8) also points towards the widespread nature of new forms of work that extend beyond what is specified in industrial agreements. For example, the report identified a growing trend of teachers creating and displaying student achievement data using visual displays known as data walls (p. 12), and engaging in the kinds of data conversations described above and in the preceding chapter.

By using a generous definition of work, it is possible to recognise the multiple forms of work performed by teachers that might otherwise remain invisible or unrecognised. As described in Chapter 2, Smith's (1987, 2005) definition of work extends to include anything that requires effort and intentionality. As Kerr (2006)

argues, because teaching is a predominately feminised workforce, the use of structures that only acknowledge face-to-face teaching time "is consistent with exploitative patriarchal relations that take for granted the reproductive functions in society performed largely by women teachers" (p. 62). Kerr asks us to imagine if "lawyers were compensated only for time spent in court or politicians for time in parliament!" (p. 62). Coincidentally, one of the teachers I spoke to reported that she did undertake extensive unpaid work on an almost daily basis. Nola said that after more than thirty years of teaching, her husband, a lawyer who works for a large legal consultancy firm, often jokes about her regular work on nights and weekends, saying, "don't you know this stuff yet? Why do you have to do so much extra work still?" For her husband, work happens during regular working hours. For Nola and her colleagues, the backstage work that occurs on nights and weekends was not recognised as work because it was not an allotted and visible part of the school day. The preceding Sunday before one of our conversations, her husband had again said to Nola that she was now working even longer hours than he had ever been required to do. In her experience, the increasing workload that was oriented towards accountability and data was foreclosing on her own personal time. In this chapter, I have worked to capture teachers' work with data by paying attention to the multiple performances of teachers, including that which extends beyond "the real work of teaching" (Parkinson & Stooke, 2012, p. 59).

Understanding teachers' multiple performances is of increasing significance. In Hewson's (2013) study into the implementation of an electronic curriculum and assessment tool in South Australia, she found that using a broad definition of work allowed room to capture the daily and nightly work of teachers. Her study suggested that the balance of teachers' work has shifted to "place more emphasis on the accountability work of documenting evidence of curriculum planning, recording and reporting student assessment rather than teaching and learning" (p. 188). Examining teachers' doings beyond face-to-face teaching is especially important given that teachers were so insistent that data was now central to both their face-to-face work with students and the work that extended beyond the classroom door.

In a heartfelt reflection published in *The Griffith Review* describing why she left teaching, former teacher Gabbie Stroud (2016) describes how the demands to

generate standardised data according to externally imposed timelines left her feeling physically ill, recounting a session with her psychologist:

> 'Your body doesn't know if stress comes from work or a tiger chasing you. It responds the same. It tells you to do something – your body wants you to react.' *Resisting fight or flight*. That's what teachers do. For two weeks I cannot get out of bed. I am numb. *How did I get here?*

According to Stroud (2016) the pressure to collect and respond to data had changed the face of the profession she loved, and left her unable to function. The unique perspective of institutional ethnography in investigating how data collection can illicit this kind of response is that it carefully maps how things have come to be as they are by beginning with the actualities of work – for teachers like Stroud, and for the teacher-informants in this research. In this way, the changes to the profession that were identified by teachers in this research, and corroborated by other teachers such as Stroud, can be understood as being coordinated from beyond the local; hooked into ruling relations. In this chapter, my aim was to explicate the operation of ruling relations by tracing the complex textual chains that left Jennifer and many other teachers I talked to feeling that data is the undercurrent of teachers' work.

A number of teachers described how the focus on data and conversations about data were changing the face of teaching. During a discussion with Dianna, an experienced teacher at East Side High, she recounted how her own work, as well as that of a former colleague, had changed. In my field notes, I recorded that:

> Dianna began by speaking about her previous school, and how she felt completely demoralised at work because 'data was everything'*. Dianna said that she felt 'completely defeated' by the way in which data was spoken about and valued; and also by the work that was created for teachers in doing tests, collecting and entering data; and hearing about data as a way of judging schools and teachers. Dianna said she recently met a friend for coffee, who was a colleague at her previous school. She said some people might think that her friend 'was a bit bumbly, but she's not'. She said that her friend is a very experienced teacher who has always been able to 'move kids along' in their work. In Dianna's view, her friend is a very good teacher. However, she said that her friend told her that the school has not changed in that the collection of data is the focus. She said her friend was

extremely stressed, and that they often talked about this stress over data at length whilst they were having coffee.

Dianna also said she spent a lot of time working out how to analyse data – and that happened in her own time. She said she was very glad not to be at the old school anymore because the time and stress were too much. However, she still does a lot of it, and sometimes wonders what the point is, if nothing ever really happens with that data?

* quotation marks indicate direct quotes from Diana.

Dianna's own experience, as well as her account of her friend's experience made it clear that there was no room for personal or professional judgement despite her friend being an experienced teacher who could "move kids along in their work". The performative pressures that were exerted clearly led to a great deal of stress as Dianna's friend had her professionalism publicly scrutinised. Interestingly, although Dianna felt that East Side High had much less of a focus on data, the pressure for teachers to reform themselves was still evident. In addition, despite her personal concerns about the utility of data and data analysis, Dianna activated NAPLAN data by mobilising herself to work with data, often in her own personal time.

5.5   CONCLUSION

Returning to the NAPLAN test materials (ACARA, 2015a), teachers were instructed that:

7.1 Practice for the NAPLAN Writing test

7.1.1 It is appropriate for students to gain experience in producing writing scripts under timed test conditions using practice topics.

7.1.2 It is not appropriate for teachers to instruct students in the preparation of a common script for the purpose of reproducing it during the test. Where scripts from students at the same school are found to have significant commonalities such that they could be considered to be pre-prepared learned scripts, this may be considered a breach of protocol.

Writing in *The Courier Mail*, Year 9 teacher Christopher Bantick (2014a) described himself as a "NAPLAN cheat" in an admission that he sidelined English literature in order to teach the reduced curriculum tested in NAPLAN. Institutional ethnography provides a unique means of understanding why teachers such as Bantick, and the

teachers I talked to at both East Side and North Bank were spending inordinate amounts of time teaching the content tested in NAPLAN. Whilst media and policy makers depict individual teachers as "NAPLAN cheats" (e.g., Calligeros, 2014), this analysis has demonstrated that rather, teachers' work is authorised and mandated in a multitude of cascading policies and texts that require teachers to take responsibility for improving NAPLAN data. Given the complex series of policies and texts that translate NAPLAN as an outcome of teachers' work and download responsibility onto teachers, the NAPLAN instructions to teachers seem almost naïve. Although some pedagogic and curriculum decisions were made by individual teachers as they responded to demands that they take responsibility for NAPLAN data and report their outcomes in data conversations, at other times decisions were collaborative. At North Bank Primary, this often occurred amongst colleagues in the same year level; while at East Side High this was more likely to occur at the faculty level. In other cases, decisions were made by the school principal.

The aim of the analysis in this chapter was to reveal how the intersection of extra-locally and locally-produced policies and procedures orchestrate significant portions of teachers' work. I have sought to explicate how teachers' work is coordinated both as they plan and deliver lessons in the classroom, as well as making visible the supplementary work that is undertaken in order to meet accountability demands. By examining teachers' work in two schools – one primary and one secondary – that are separated by more than one hundred kilometres, the translocal power of texts is brought into view. In this way, the ideological code and multiple layers of ruling that are achieved through textually-linked and authorised actions are made visible.

This chapter was presented in two parts. Firstly, the decisions and texts introduced in Chapter 4 were examined from the point at which they enter schools. The introduction of new locally-produced policies and mandates often set up institutional circuits that had significant effects on teachers' work. The first half of the chapter provided examples of the operation of institutional circuits from each of the schools to provide insight into the way teachers' subjectivities were shaped, and into the allocation of teachers' time. Secondly, the chapter provided a broader discussion of how teachers' work is shaped by the ruling apparatus' focus on improving data.

Although the official and media texts that circulated prior to and after NAPLAN testing specified how teachers should work, including focussing on the need for

teachers to simply "teach the curriculum", the material presented in this chapter has highlighted the discursive contradictions that are constructed for teachers as a raft of other institutional texts that are central to their work create subject positions and authorise work that is underpinned by the institutional drive to improve NAPLAN test results.

I concluded this chapter by noting that a recent bargaining priority for the union that represents teachers in Queensland (QTU, 2014) reported that in its 2014 quadrennial survey of members, both teachers and principals ranked workload as the most serious issue in schools, reporting that there had been significant increases in workload, driven by a "drastic increase in computer time spent on administrative tasks". Describing the key changes that had occurred in the past decade, the report listed NAPLAN testing, the rise of data cycles and additional in-school testing, changes to school assessment practices and the like. The added impact of modern communications additionally means that teachers' workplaces were no longer confined to the classroom or staffroom, but now also existed in cyberspace. Teachers were expected to respond to email from parents requesting data on weekends and generate complex spreadsheets in short timeframes.

As the head of curriculum at North Bank Primary described it, she did "a million trillion things" in her job, and that most of them involved data. In the following chapter, I follow the implementation of a state government funding policy that drew on data collected at the local level, to further map the impact on teachers' work.

Chapter 6: This is the reality we live in: Guaranteeing results

6.1 THE GREAT RESULTS GUARANTEE

Amongst the data specified on the North Bank Assessment Calendar (see Chapter 5), was "PAT-R" (Progressive Achievement Tests – Reading), a set of reading assessments produced by the Australian Council for Educational Research (ACER). In this chapter, I present North Bank Primary teachers' experience of working with PAT-R data in a context where over the course of the year, PAT-R data became textually tied to a new education funding initiative, The Great Results Guarantee (GRG). This chapter focuses on how temporal cycles of policy, media and teachers' work intersect. The chapter begins with an overview of the development of the GRG, with a focus on unpacking the ideological code with which it is infused.

In the second half of the chapter, I examine teachers' work with PAT-R data prior to the implementation of the GRG, before moving to trace the work undertaken to activate the GRG. This section includes an analysis of the work required to generate and publish a school guarantee at the beginning of the year, and "snapshot" progress report on progress at the end of the year. These were mandated texts required to be produced and published on the website of every public school in the state. Before I trace the sequence of textually-mediated events that impacted teachers' work, I examine the hyperactive and mediatised policy environment in which the GRG was produced, and which served to accelerate the nature and speed of events at the local level.

The contribution of this chapter is to build a picture of how teachers' experiences and knowledge are subordinated by the institutional desire for mediatised accounts of education that rely on quantified data. While these representations of education purport to increase transparency (see Section 2.2.1 and Section 3.2), reductionist reporting cannot represent the time or complexity of work undertaken at the frontline, nor the way both teachers and students are inscribed into reality via chains of texts. By revealing the speed and extent of disruption to teachers' actualities, the

chapter highlights how quickly chains of texts can be activated in ways that alter the realities of education for both teachers and students.

6.1.1 "A big chunk of money without a direction"

As described in Chapter 3, the GRG was a state education funding policy (2014-2015) that provided a mechanism for distributing funding provided by the Australian Government's Students First initiative. As one of the teachers from North Bank, Thomas, described it:

> The GRG is basically Campbell Newman's [then Premier of Queensland's] answer to Gonski. It is a way of giving out a couple of hundred million dollars. I think that was true of the Liberal [conservative] governments. They could do that without having signed up to Gonski. Gonski was far, far superior in every way. Not only significantly more money, but more fairly distributed to areas of need. This is just a big chunk of money without really a direction.

Thomas' observations about policy incoherence, and the use of funding to create policy directions by both what is done and not done reflects Rizvi and Lingard's (2010) definition of policy as much more than what is inscribed in single texts. Instead, policy expresses "patterns of decisions" (p. 4) that are a part of normative fields of activity. It also reflects Smith's (1999) description of texts being imbued with ideological codes that, like a genetic code, are able to be replicated "across discursive sites" (p. 158). The GRG, as a policy that was intended to maximise school choice by promoting consumer/parent choice is imbued with neoliberal ideological notions of new public management and "steering at a distance" (Kickert, 1993, 2001) in which responsibility is devolved to the school level; and managed via increased reporting and accountability. The analysis in the chapter highlights the contradictions that exist when the ideological code insists on the use of statistics and numbers whilst simultaneously purporting to provide schools with freedom by implementing a funding model aimed at maximising local decision-making. The analysis presented in this chapter aims to unravel how a policy that was intended to increase school autonomy was able to organise the actualities of teachers' work at the local level.

To demonstrate the ideological code at work, I begin with an excerpt from an interview with Federal Education Minister, Christopher Pyne on the ABC television

programme, Lateline. The date was October 13, 2014, prior to the advent of the GRG. The host was Emma Alberici. During the interview, Alberici asked Pyne:

> Well Minister, David Gonski in his review urged governments to above all else ensure that differences in educational outcomes are not the result of differences in wealth, income, power or possessions. Is that a priority of your schools policy?

After some back and forth, Pyne responded by arguing citing Australia's PISA results to argue in "eight out of ten cases", differences in student achievement were a result of teacher quality, while only "one out of ten cases" could be attributed to socio-economic status. Although Pyne's subsequent refusal to acknowledge Australia as a low equity country is typical of political manoeuvring, his insistence that 80% of inequity within the system is a result of poor teachers, reflects the blame discourses and translation of data as an outcome of teachers' work that were described in Chapters 3 and 4. Alberici responded by saying:

> And if I can just draw you back for a minute because the OECD also found in its last PISA results that Australia had a far higher-than-OECD average discrepancy between the achievements of the top students and those at the bottom in terms of disadvantage and disability?

Again, Pyne insisted that according to OECD data Australia is in fact a "high equity country", despite the OECD (2012) statement that "socio-economic status and parents' educational background, however, remain strongly associated with student performance [in Australia] (p. 4). The OECD report went on to say that "the persistence of intergenerational transmission of disadvantage is illustrated in student reading scores" (p. 4) and that students who attend schools in the bottom quartile of socio-economic advantage underperform by "well over one year of formal schooling" according to PISA reading data (p. 5). A range of statistics around students whose mothers had secondary or tertiary qualifications were also reported, for example that "students whose mothers [had] attained a tertiary education…. [were ahead] the equivalent of nearly two years of schooling on the PISA reading scale" (p. 5).

This public refusal to accept that Australia has an inequitable education system drove the conservative federal government's decision not to adopt the recommendations outlined in the previous government's review of education in

Australia (Gonski et al., 2011). Justifying the decision to construct a federal funding policy that was not tied to equity, Pyne described that "I don't intend to infantalise the states by telling them what they should or shouldn't do with their money". The ideological use of funding in the "traditional battleground of school equity" (Windle & Stratton, 2013, p. 202) had given way to the mobilisation of neoliberal ideals of marketisation and new public management.

Pyne's refusal to acknowledge social disadvantage allowed him to make a discursive move into justifying what North Bank Primary teacher Thomas had described as "just a big chunk of money". Pyne's intention not to "infantalise the states" is reminiscent of what Rizvi and Lingard (2010) describe as policy by either doing or not doing. Not "telling them what they should or shouldn't do" becomes a form of policy by default that relies on new public management technologies such as the creation of accountabilities (Smith, 2014), where performative ideals inscribed in institutional texts must be produced by individual subjects as part of their everyday work. Ball (2006) describes performativity as "a technology, a culture and a mode of regulation that employs judgements, comparisons and displays as a means of incentive, control, attrition and change – based on rewards and sanctions (both material and symbolic) (p. 144). As described in Chapter 3, the federal government's Students First initiative provided funding to the Queensland state government, which was distributed using the GRG requirements for schools to "guarantee" student results.

The complex relations between state and federal governments in Australia (see Chapter 3) have contributed to the increasing bundling of financial incentives and penalties to policy compliance requirements. The requirements enshrined in the Schools Assistance (Learning Together— Achievement Through Choice and Opportunity) Act (2004) are case in point. This legislation linked more than $33 billion in federal funding (between 2005 and 2008) to a range of "bizarre" (Smyth, 2006, p. 309) demands such as flying the Australian flag on a "functioning flagpole"; displaying a "national framework of values"; the public display of school performance data (including test results and teacher qualifications); and more. Smyth (2006) describes this "confused educational policy melange" as the use of symbolism and "political spectacle" to explain and build political consensus (p. 309). The links

between "political spectacles", the mediatisation of policy and the embodied work of teachers are explored below.

6.1.2 The mediatisation of policy

Texts such as the GRG are produced in "mediatised" (Fairclough, 2000) political environments, in which the media is central to the process of policy production. Because texts are central to the operation of power, Smith (1987) has examined women's historical exclusion from "the making of ideology, of knowledge, and of culture" (p. 17-18). Explaining women's position, Smith (1987) writes that "positions of power are occupied by men almost exclusively, which means our forms of thought put together a view of the world from which women do not occupy" (p. 19). In this chapter, I examine the production of a mediatised policy to explicate how texts that are produced quickly afford little or no time to include or represent teachers' perspectives or interests. The analysis presented in the latter half of the chapter examines the implications of this silencing on teachers' work.

Fairclough (2000) describes the use of media monitoring, and the development of media strategies to "manufacture consent" as "government by media spin" (p. 122). In Queensland, the conservative government (2012–2015) branded its policy texts under the media slogan: "Great State. Great Opportunity. And a plan for the future". The names of education and training state policies that existed under this metanarrative, including "Great teachers = Great results", "Great skills. Real opportunities" and "Great Results Guarantee" demonstrate the heteroglossic nature of these texts, in that they draw on both media and policy discourses. They also demonstrate the centrality of objectivising discursive translations of statistics in that they present "results" as unproblematically able to be linked to guarantees, opportunities and teachers' work. This interplay between media and policy texts can lead to policy as "sound bite" and *de facto* policies, where a policy vacuum can be ostensibly filled by extensive media coverage (Lingard & Rawolle, 2004; Taubman, 2009). The use of quantified targets to both motivate frontline workers and to provide public guarantees is now relatively commonplace (Moss, 2009).

In journalism, time is intimately related to the need to maintain publication cycles and meet deadlines which have intensified in the 24/7 competitive internet news environment (Stack, 2010). As Bourdieu (1996/1998, pp. 6-7) pointed out, media cycles produce "structural amnesia" in that the day-to-day thinking that gives

prominence to what is new simultaneously ignores the complexities and "nuances" of stories. In education policy, electoral cycles and school years create different temporal cycles that require policy-makers to "learn" to quickly "package policies" as complete news stories (Stack, 2010). An examination of media reporting of the GRG highlights how this plays out for education policies. Media outlets such as *The Brisbane Times* (Remeikis, 2014) reported the release of the new policy with very little nuanced analysis or historical context. A comparison of the reporting by the state's major newspaper, *The Courier Mail* (Vogler & Chilcott, 2014) and the government media release (Newman & Langbroek, 2014) reveals similarities, and a structural amnesia in that neither included background information or historical analysis.

The first paragraphs of each are presented in Table 6.1.

Table 6.1 Comparison of media release and news article on the Great Results Guarantee policy

News article (January 29, 2014)	Media release (January 28, 2014)
A NEW plan to boost literacy and numeracy among the state's youngest students will see results by the end of the year, Premier Campbell Newman has pledged. Mr Newman said yesterday the State Government would spend the bulk of its extra $131 million in federal education funding for this year improving literacy and numeracy standards for students from Prep to Year 2.	The Newman Government has unveiled a bold new plan to lift student outcomes and ensure that Queensland is among the top performing states in literacy and numeracy in Australia by 2020. Premier Campbell Newman and Education Minister John-Paul Langbroek today announced that a funding boost of $131 million would be provided to all Queensland state schools in 2014 through the GRG. Mr Newman said that the majority of funding would be directed towards the early years of school, which research indicated was the key to achieving better outcomes.

The policy itself is an eight-page document, of which:

- two pages are full page photographs of early-years students at traditional school desks;

- one page is a message (approximately 300 words) from the Premier and Minister for Education, Training and Employment extolling the policy;

- two pages provide examples of the "snapshot report" guarantees schools would be required to publish on their website;

- one page outlines the "traffic light system" of reporting, including provision of the images that are used on school GRG snapshots;

- one page describes how the funds will be allocated to schools; and,

- one page describes the agreements that schools must enter into in order to receive funding. The page that is covered approximately two thirds by a photograph of young students working at desks with pencils and paper

The lack of detail in the document highlights the importance of understanding the ideological code that is inherent in policies by analysing both what is said and what is not (Rizvi & Lingard, 2010). The focus in the documentation of the GRG, news reports and in the media release was on the amount of money being allocated, and the premier's claims about guaranteeing school results. There was no mention of the background to this policy, nor the way guarantees would be enacted by schools, other than to say that "we want school communities and parents to have input into [the] targets" (Newman & Langbroek, 2014, p. 1). The media release acknowledged that the funding for the policy "was the result of the [conservative] Abbott Government's $794 million Students First – A Fairer Funding Agreement for Schools initiative to be delivered over the next four years". The document itself described that:

> The funding will come with no strings attached because the Australian
> Government recognises that Queensland knows how to make the most
> effective investment in our students' education (p. 5).

The reporting by *The Courier Mail* did not trace the background to previous federal or state government policies, including links to the so-called Gonski report (Gonski et al., 2011) which recognised educational inequity in its investigation into school funding. Instead, as Bourdieu (1996/1998) pointed out, news is reduced "to the level of the absurd because we only see those elements that can be shown on television at a given moment, cut off from their antecedents and consequences" (p. 7). In this way, he argues, events and happenings are unable to be fully understood by the audience as "cannot reinsert [the news stories] in a network of relevant relationships" (p. 7). The social relations and work of teachers in the chain of textually-mediated actions that enables the production of the snapshot report at each school is also

hidden. Bourdieu's point, therefore, aligns with Smith's (1987, 2005) writing about the disjunctures between the experiences of individuals, and the way these are accounted for in ruling texts. The structural amnesia of both media reports and the government media release had a clear focus on the present; disassociated from the past and from the complexities of the embodied experiences of teachers and students in schools. For example, although the Queensland government indicated that it would honour low socio-economic school National Partnership funding to the end of the funded period (end of Semester 1, 2015), after this time, funding would subsequently be allocated "on the same basis as non-NP Schools" (Queensland Government, 2014a). The ideological move away from using education funding to address issues of equity went all but unnoticed in the reporting of the GRG.

Policy makers' "love for numbers" may combine genuine attempts at engagement with issues (such as how to improve student achievement and ensure school improvement) with a desire for rapid solutions and the legitimisation of policy choices (Hemelsoet, 2010). In Porter's (1996) analysis of the reliance on numbers by policy makers, he concludes that their presumed objectivity "is especially appealing to bureaucratic officials who lack the mandate of popular election" (pp. 7-8). Figure 6.1 shows the GRG's traffic light visualisation system.
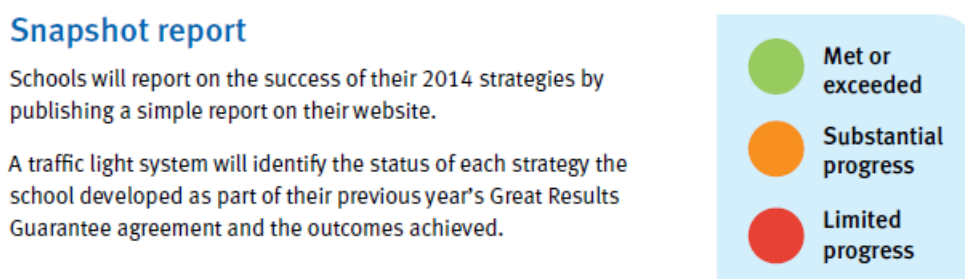

Figure 6.1 Great Results Guarantee traffic light system

(Queensland Government, 2014a, p. 8)

The growth of "evidence-based" policies such as the GRG, which uses numbers that have been reduced to traffic light symbolism, demonstrates the rise of policy as numbers (Lingard, 2011) and the use of objectivising views of data to create cultures of performativity and governance. The policy is one of many at both state and federal levels that uses "traffic light" colours (green, amber and red) to visually represent school success (Queensland Government, 2014a). The federal

government's *My School* website similarly colour-codes measures of "school success" on NAPLAN data; as do other state-based policies such as the School Performance Profile (see Chapter 4). This public form of representation is increasingly used in the marketised education milieu, as it provides purportedly objective data-at-a-glance to students and parents who are positioned as consumers who are empowered to choose; and to managers (such as regional directors) who are authorised to govern. The use of this reductionist depiction of what constitutes success also demonstrates the mediatisation of policy, as governments seek to produce texts that are quickly and easily read as soundbites. "Policy as sound bite" is part of a new turn in which numbers have become a new "reductive norm" (Lingard et al., 2011, p. 357) that is characteristic of the shift from "government to governance" (p. 356). This turn frequently involves the visualisation of numbers and statistics, which necessarily requires data to be presented to an audience that does not have any way of accessing real information about the data being presented (Bendegem et al., 2010).

The complexities that arise from the use of traffic light symbolism as a form of governance has been analysed in a range of other sectors from housing (e.g., Manochin et al., 2011) to healthcare (e.g., Leppäniemi & Jousela, 2014). Manochin, Brignall, Lowe & Howell (2011) have described the difficulties with this form of representation. For example, executive decision making was altered because it was unclear whether green lights represented improvements in performance, or indicated that performance targets had been met.

The GRG purportedly measured the quality of schools, creating a mode of regulation that not only judged and compared schools but also provided significant material rewards in the form of funding; and symbolic rewards in the form of the public visualisation of success.

Figure 6.2 (below) shows North Bank Primary's GRG "snapshot" for 2014, a document that was required to be produced and published on all Queensland state school websites by the end of each school year. All the work carried out by teachers as part of the textually-mediated chain of events is reduced here to a small green dot which indicates that North Bank is "on track to meet or exceed targets". The nights, weekends and lunch-hours; the face-to-face work with students; the marking and

calculating of scaled scores; and the perspectives and worldviews of teachers are concealed in the process of reducing school achievement to a traffic light symbol.

Figure 6.2 North Bank Primary Great Results Guarantee excerpt

Here, it is worth considering Rose's (2003) argument that there is power in "the single figure" in that it "render[s] invisible and hence incontestable – the complex array of judgments and decisions that go into a measurement, a scale, a number. The apparent facticity of the figure obscures the complex technical work that is required to produce objectivity" (p. 208). The key purpose of this chapter is to reveal the work required to produce the objectivity seen in North Bank's GRG, as well as to demonstrate the complexities that occur when frontline workers are pushed to do so in very short timeframes.

6.1.3 The acceleration of time

In the current mediatised (Lingard & Rawolle, 2004) political environment, driven by both political and media timelines and deadlines, it is unsurprising that policies such as the GRG are produced and enacted with considerable speed. The performative pressures and rush to produce data in schools is part of a set of textually-mediated ruling relations that are heavily influenced by the "acceleration of time" (Rosa, 2010, 2014) in policy production. As described in Chapter 3, the GRG was produced within a sequence of events in which political timing was critical. As

will be explicated in the second half of this chapter, the timing of the GRG itself had significant ramifications for teachers' work. The timing of the electoral cycle, along with the timing of when various states and territories had signed (or not signed) education funding agreements meant that the new federal conservative government (elected on September 7, 2013) only announced its eventual funding agreement with Queensland in December 2013. This announcement occurred in the week prior to the last week of school, as teachers and students were about to adjourn for their annual summer vacation. However, once the agreement was struck, the state government still needed to create and announce its own funding mechanism to distribute the $131 million that would flow to Queensland from the federal government's Students First policy.

On January 28, 2014, Queensland conservative Premier Campbell Newman publicly announced the GRG, just days after Queensland teachers returned to school for the year. Schools were given one month to formulate and lodge their school GRG agreements with the Queensland Department of Education Training and Employment (due by February 28). Although they welcomed the additional funds, the Queensland Teachers' Union expressed concerns about the timing of the GRG announcement (QTU, 2014b) in that Queensland's failure to sign up to "Gonski" before the federal election meant that schools were now left with just one month to undertake the consultation and planning required to formulate their GRG agreements. During that time schools were to follow the following process:

1. Review the school's strategic planning documentation and audit outcomes in order to identify key areas for improvement.

2. Consult with "curriculum leaders" and regional office staff about proposed strategies and targets for the key areas identified.

3. Consult with teachers and the school community via the school's Local Consultative Committee.

4. Submit the GRG by 28 February 2014

5. Include GRG strategies in 2014 planning documentation.

(QTU, 2014b)

The directive to undertake the above work in 23 business days (along with the regular work of setting up classrooms and welcoming students back to school) was clearly going to be tight. Although school leaders were required to review planning documentation, and consult with teachers, the school community, "curriculum leaders" and regional office they were also required to guarantee that they would either:

- achieve the National Minimum Standard for literacy and numeracy for their year level; or

- have an evidence-based plan, developed by the school, in place to address their specific learning needs.

The second half of this chapter explicates how North Bank Primary teachers experienced both the development of their school guarantee, as well as the work required to "prove" they had met the guarantee just eight months later. The timeline of events for implementation of the GRG described above highlight not only the ideological code imbued in both the state and federal funding policies, but also the way in which the mediatised political environment intersected with the accelerating sequences of events in ways that would have significant consequences at the local level. In the following section, I explore how the GRG was experienced by teachers as they activated the demands associated with this policy.

6.2   THIS IS THE REALITY WE LIVE IN: TEACHERS' EXPERIENCE

As the policy was enacted, principals and school leadership teams were expected to quickly draft their school GRGs. The section begins with a brief examination of the experiences of school principals as they activated the GRG policy requirements, before moving to explicate how the policy was experienced by teachers at North Bank Primary. I have chosen to focus on one school, North Bank Primary, in order to provide a fuller examination of the sequence of events that were unleashed by the new funding policies described above. The use of extensive quotes from interviews and media in this section is intended to provide a means of moving beyond what Ball (2012a) has described as "abstract accounts" that "gloss over [these] awkward realities" (p. 9). In preserving the voice of active subjects, the analysis is intended to demonstrate how local accountability work is achieved for official purposes, and highlight the lines of fault between these official and embodied ways of knowing.

6.2.1 "Put your signature on it": Principals' accounts

As described in Chapter 4, for some schools the requirement to guarantee all students would meet national minimum standards in NAPLAN was problematic. To highlight this complexity, and the extent of ruling relations, I begin this section by including an excerpt of a discussion between the six school leadership teams at one of the ARC project meetings. During a meeting in March 2014, the group discussed how they had devised the goals they would be required to guarantee at the end of each school year:

Dan   Well the political pressure is really there. Like I tried not to put the minimum national standard into my GRG, but it got sent back the same morning and they said put your signature on it, after you have put this statement on it, guaranteeing...

Simon   They really shouldn't be doing that. It's not fair. The director general even said that they shouldn't be doing that.

Hugh   He said that a week ago! *(Laughter)* [This comment was made in reference to the timeline in which GRGs from every school in the state were required to be submitted in February, i.e., prior to the director-general's statement].

Robert   A week ago!

Dan   This is the reality we live in!

Here, the operation of relations of power comes into view, with all six school leadership teams describing regional pressures to include NAPLAN results on their school performance guarantees. Although the purpose of this chapter is not to trace the institutional texts that led to these institutional demands, there are clearly parallels to the pressures that principals described in Chapter 4. The accelerated political decision-making described in the first half of the chapter spilled over onto school principals, for example with Dan describing the pressure not only to agree to guarantee NAPLAN results, but to do so quickly ("the same morning"). Although the unfair pressure of being told to "put your signature on it" is raised by Simon, the speed of implementation left the principals with little option other than agreeing to regional demands. This reality made the director-general's comments about the level of control being exerted through regional offices almost absurd. That is, the director-general's comments that regional directors shouldn't interfere in school decisions

came some weeks after the documents had been submitted, with explicit direction from the regional directors.

The leadership team at North Bank Primary faced a related problem when drafting their GRG in that well over 90% of students at each of the NAPLAN year levels consistently exceeded the national minimum standards. Thus, pledging to improve national minimum standards at North Bank would have made little sense, which meant that the school needed to construct an alternate "evidence-based plan" in addition to guaranteeing NAPLAN results. The development and implementation of this plan is explicated in the following sections.

6.2.2 Finding an "evidence base" for the school guarantee

When faced with the task of devising an evidence-based guarantee, it made sense for Debbie and her team to look towards using data that already existed within the school. This data came from an action research project that had commenced the previous year. During 2013, the school had begun to implement a small-scale action research project that aimed to improve how reading was being taught across the school. A small group of enthusiastic volunteer teachers and school leaders had a shared goal of ensuring that every student in the school was receiving excellent instruction in reading, with a focus on comprehension. As part of the collaborative action research, at the time (in 2013), I interviewed teachers across the school, who spoke at length about their hopes about the introduction of PAT data across the school as a tool for informing their pedagogic decisions.

During these interviews (in 2013), some of the teachers at North Bank expressed concerns that although a lot of data was being collected by individual teachers about students' reading, it was not consistent and therefore, was not able to be compared. There were also concerns that reading comprehension strategies were being taught well by some teachers, and not by others. PAT-R testing was thus implemented as a way of understanding what was occurring across the school so that professional development and support could be directed to the teachers who could benefit most. For example, Sarah and Jennifer said that:

> Jennifer Because you just presume a lot too I think when you're listening to kids, and kids who lack skill are really good as they get older at hiding that. So they're the ones that slip along without teachers picking up on it. Because then without listening to them

individually you just presume that they're doing…

> Sarah   But that's the problem we might be saying that those kids are slipping through and I teach Year 5 and I tell you what, by the time they get to Grade 5 there's a lot of kids who have slipped through. But then we are not even tracking to see who's slipped through. So they come to Grade 5 and we go to special needs with all these referrals because nobody from that time of Year 3 they've come out of lovely early years, come to Grade 5 and they're so far behind but nobody's managed to pick them up. Hopefully PAT-R something like that will help, but linking that to teach is important too. The teachers say, well 'what problems are PAT-R showing us so we can embed that in our reading program?'

Thus, in 2013, when PAT-R was introduced, it was clear that teachers were focussed on how the data from the tests could be used to ensure that no students "slipped through" unnoticed, as Sarah and Jennifer discussed. For Sarah, in particular, this was deeply personal and of great concern because her own daughter had been one of the students who "slipped through". Sarah said that as a mother she had struggled to find a way to re-teach her daughter to read in Grade 5, but worried about other students who had been missed. For Sarah, the implementation of school-wide data collection provided an opportunity to ensure that no student could reach Grade 5 having "slipped through" unnoticed.

The school purchased the PAT assessment program, and teachers began to test students in 2013, making individual decisions about what was in the best interests of their students. For example, although teachers were advised to test all students in their class, some decided not to test students who had recently arrived in Australia and spoke very little English. They felt that testing these students would not have served any purpose because it would not have provided any useful information that would inform their teaching; and moreover it would have subjected students to an unnecessarily stressful experience.

In addition to the longitudinal tracking of students, individual teachers were also thinking about how the data could be used at the classroom level to improve teaching and learning. In interviews with teachers in 2013, they described specific ways in which the PAT-R data was being used to inform their own teaching. For example,

Tina said that she used the data to help her to "home in on [reading] strategies" and to understand the kinds of errors her students were making in decoding and comprehending texts. She said that, "we've tested them with PAT-R and we had a look the other day and my kids are not that good with inferential questions. So they are good with the 'right there' ones... anything that is right there in the passage, but anything that is not... well..". This was the kind of information that was used by Tina and her colleagues to adjust the kinds of lessons they delivered, for example Tina began to focus more on teaching inferential comprehension strategies as a result of this data analysis. Here I note that at the time of PAT testing in 2013, none of the teachers had accessed any professional development on the process of data collection, and did not fully consider the complexities of ensuring that the data teachers collected and entered would be valid or reliable. Rather, their focus had been on improving teaching pedagogy across the school and creating a mechanism to ensure no student "slipped through" without receiving the best possible opportunities to learn to read.

In deciding to use the existing PAT data as the basis for the school guarantee, the leadership was afforded little time to consider the validity or reliability of the data. The time taken to collect data meant that it would have been extremely difficult to gather a new set of baseline data in time to meet the deadline of February 28. In drafting the GRG, the leadership team also wanted to take teachers' opinions about resourcing into account, and therefore drew on qualitative data from the 2013 action research project. In investigating teachers' opinions on what kind of support would allow them to improve the way reading was being taught, almost universally, teachers said access to reading resources such as good quality books and magazines, as well as additional in-class support would make the most significant impact on the quality of instruction. To fund the teachers' suggestions, Debbie decided to link the reading improvement strategy to the GRG, which meant that PAT-R data would become part of the school's guarantee. Debbie believed that this was an ethical decision in that if a substantial portion of the funding would be directed towards reading instruction, using reading data as the basis of the guarantee was the right thing to do.

6.2.3 Proving the guarantee: Teachers' accounts

At the beginning of 2014, literally on the first day back at school for teachers, all teachers at North Bank Primary attended a staff meeting where Debbie and a number of senior teachers spoke about the introduction of the GRG. The teachers were informed that the school would be required to guarantee that all students would meet minimum standards on NAPLAN testing, and develop an evidence-based improvement plan. The leadership team explained that they believed using existing data would be the most logical option, and suggested two forms of baseline data: PM Benchmarking (for Prep to Grade 3) and PAT-R (for Grades 4 to 7). PM Benchmarking is a reading assessment tool produced by Nelson Education. The program has been used at the school for many years by teachers in the early years to assess students' instructional and independent reading levels. Students are assessed with PM Benchmarks until the end of Year 3, by which time a majority of students are considered to be at the top level of PM Benchmarking assessments, after which time students are no longer tested. The teachers were told a number of times that the school's GRG agreement would be worth more than $500,000 over two years. Debbie explained that this money would go towards funding resources that teachers had suggested (such as quality reading resources) as well as funding the employment of expert teachers who would work in classes to support teachers, and teacher-aides, specifically in the teaching of reading. The allocation of trained teacher-aides into classrooms was highly valued across the school, and the teachers saw this as a critical contribution to improving reading pedagogy.

Jennifer later said that to draft the agreement, which was subsequently ratified by the School Council, the school had grouped the 2013 PAT-R data into "stanines" for each year level, calculating the percentage of students within each stanine. This 2013 data was then used to calculate goals for the end of the year for each year level. Table 6.2 shows an excerpt of data for one year level (Grade 6).

Table 6.2 Excerpt from North Bank Primary's Great Results Guarantee agreement [13]

Year Level	Data Source	Current Level			End of Year (Dec 2014)		
Year 6	PAT-R Stanines	6% (1-3)	37% (4-6)	57% (7-9)	3% (1-3)	30% (4-6)	67% (7-9)

* Note: 2013 data is shown in the column "Current Level"

It was clear that the 2013 PAT-R data was now high stakes, in that it was linked to more than half a million dollars in funding for the school. As Jennifer described it, the GRG funding was now a "driving force" at the school.

A few weeks later, at an after-school staff meeting, Jennifer and Sarah addressed the teachers, once again reminding teachers about the importance of the PAT-R data. In preparation for 2014 testing (scheduled for Term 2), Sarah demonstrated how to enter the PAT-R data into OneSchool, lamenting that, "I know it is annoying but you need to do it so everyone can see it". During this meeting, Jennifer once again began to speak about the GRG, and the way in which PAT data was being linked to more than $500,000 of funding over the next two years. After showing a slide entitled "Literacy and Data: A match made in heaven", she again reminded the teachers that "it is important to prove that we meet our guarantee".

It was at this time that teachers were told that consistency and accuracy of data entry was vital, because of the link to the GRG. Since the PAT-R had now become "high-stakes", Jennifer and the "data team" had decided to audit the baseline data that formed the basis of the GRG. In doing so, they had uncovered a range of errors in the data, for example:

- It seemed that some teachers had simply made errors in transferring data from their own records into OneSchool.

- In another case – seemingly unimportant until we remember the high stakes nature of the data – was the fact that the school photocopier was out of toner at one point, and the "lines" on spreadsheets did not print out, with the effect of some teachers entering data incorrectly into OneSchool. (i.e., transposing data into incorrect columns).

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[13] Percentages have been changed to protect anonymity.

- The decision by some teachers in 2013 not to test all students was beginning to create concerns. In 2013 when PAT-R was introduced a number of teachers had decided not to test students who had recently arrived in Australia with little or no English (see above). The data team expressed concern that "gain scores" would not be able to be calculated because there was no baseline data. A number of teachers continued to express their own concerns over the unfairness of testing students with little or no English. In response, the high-stakes nature of the data was stressed by the data team, and the teachers were asked to ensure that all students were tested in the future, with no exceptions.

- The data team had also identified possible confusion amongst teachers about statistical terms, for example the difference between scaled scores and raw scores, which had resulted in errors such as teachers entering incorrect scores into the database.

These issues led the team to believe that there were significant issues with the accuracy of the PAT-R data. Geoff reported that an audit by a teacher in the data team found that he had 12 errors in his own class data (out of 25 students). Another teacher reported at least 6 errors in her data, and on auditing another teachers' class found that all entries were incorrect. At yet another professional development session on data a few weeks later, Jennifer again asked teachers to "go back and make sure the raw score column is in the raw score column…" The teacher I was sitting next to in that meeting replied, "I don't think so... I know so. I've entered the data in the wrong columns". In discussing the GRG data, Sarah said she had looked at the data and found that, "there are a lot of missing cells; this is most likely because we [teachers] didn't enter it correctly. This could cause a big problem for meeting our GRG". The teachers in the data team requested teachers to look for paper copies from last year, and if possible, to verify if their data had been entered correctly.

In additional attempts to address the issues of accuracy of data, the teachers from the data team continued to run various sessions in staff meetings and professional development. All kinds of new skills were covered from IT skills, such as how to access reports in OneSchool, to understanding statistical concepts such as normed data, percentile rank, stanines, and the like. Here I draw attention to the extent of new knowledge required by teachers at both schools (see section 5.3.2) to undertake the

collection, recording and analysis of numeric data. During these sessions, teachers worked on their laptops, following instructions, and sometimes making comments such as "this is too far ahead for me. I don't know what's happening". This focus created additional work for all teachers as they were now required to spend a great deal of time calculating raw scores and stanines. According to Nola, this was done without being provided any understanding of "what it really means". When she was first asked to work with stanines, Nola – like most of the teachers – spent a great deal of her own personal time educating herself. One day, Nola invited me back to her classroom to show me her research. Her investigations led her to the origins of the word, which was developed by the American military in World War II, and was short for "STAndard NINE". The Standard Nine was essentially a nine-point scale, or bell curve. She said that this was a contradiction, because particular mandated tests at the school are recorded according to stanine, even though she has been told that "we don't use bell curves any more" and that you "aren't allowed" to use bell curves. Nola had spent a great deal of her own time educating herself, because it was of great concern to her that teachers were acting as or statistical experts or technicians, although they are not.

Of serious concern for the teachers and the leadership team was the overall difficulty in implementing a new testing regime that would no longer be used exclusively for diagnostic purposes, but was retrospectively linked to a high-stakes initiative such as the GRG. The school had mandated that PAT-R data be collected by Week 6 of Term 2 and again by Week 6 of Term 4. The team were focussed on ensuring that the new round of data collection would generate accurate data that would help them to verify their GRG agreement. Once the data team understood the kinds of errors in the data, the team, along with the principal Debbie, began to consider how the school could rectify existing errors and implement a more valid testing regime in such a short timeframe.

However, after the first round of testing in April 2014, new problems emerged for the school. Once results were recorded, it became apparent that testing too frequently had produced data which showed a majority of students as regressing, despite the heavy emphasis that had been placed on providing teachers with a range of professional development and in-class support aimed at improving literacy data. In one of the professional development sessions, one teacher said, "it can feel

demoralising". Another said, [When I look at my data I say to myself] "Oh my God! I'm a failure!" Yet another said that:

> And then you get stressed, because that is another thing that I've got to do or I'm not doing well enough or something. You know. I don't know where we're heading…

The teachers at North Bank's descriptions of the moral and professional dilemmas they faced were reminiscent of Ball's (2003) descriptions of teachers whose "values [were] challenged or displaced by the terrors of performativity" (p. 216). These processes were largely about checking for accuracy. As Rosa described teachers' work as, "test, mark, enter. Test, mark, enter. And it's not just entering a raw score. It's entering every – single – result. Once again – in your own time". Similarly, Susan described the process by saying that, "so all of this… has to be entered into OneSchool, these things *(referring to the assessment calendar)*. So you know the schedule for each term. What has to happen. What has to be done. And, a lot of times, you enter the data, and then you forget about it. Because… like, at the beginning of the year we did PAT-M. We found that was valuable. But now they are sitting it again". This feeling that the quantity and frequency of data collection work was now taking the place of other possibilities including having time to respond to the data was common. Cameron described the endless data collection as a vicious cycle of testing and data collection that left him wondering, "well when am I getting the time to teach?"

Recalling that the PAT-R data was just one of ten test items on the assessment calendar, each with its own complexities as highlighted in Nola's account of working with IPI data (see Section 5.2.1), it is unsurprising that teachers at North Bank frequently talked about "the time it takes". Often teachers' personal time was consumed by seemingly unimportant events such as having difficulties with computers. For example, on the day of our interview, Cameron said that, "I just [entered my PAT-R data into OneSchool] this morning and for some reason, the columns didn't line up, so it wouldn't save it for me. But it's like… now I'll have to go and find someone and say, 'what's going on?' So I spent all morning putting it in, and then you go…" *(Confused look, hands in the air).* Cameron was one of three teachers at North Bank who had experienced a similar situation of data not saving, which would require him to consult with other teachers before entering the data

again. Susan said, "I think you have to find in your own personal time, the time to put it in. You can try to do as much as you can at school. But there are always interruptions. And of course, the computer's not working! You know… all of that technical side of it". These materialities made a difference, altering and complicating work that was in addition to the regular work of teaching. Re-entering data was common at both schools (e.g., see Sections 5.2.2 and 5.2.3) and often was completed at nights and on weekends. As teachers learned new forms of work, they often chastised themselves for their slowness in meeting performative demands. Liz explained that:

> I'm pretty shocking with Excel and I need the help of the younger teachers. I just go in there and I say, 'how the hell do you do this!?' *(Laughter).* I'll just do something and wipe it all. You know… I rearrange things I don't mean to. And I think the poor old staff who work with me have learned some new swear words this year!! *(Laughter)….* but that's just my own limitations there.

As Liz and her colleagues undertook the various tasks required to find out "how the hell you do this", they had become the "absorbing group as front line workers, compensating for the inadequacies of a system" (Kerr, 2006, p. 58). Although Liz's inexperience created a great deal of work for herself and her colleagues, this work was expected, with minimal time provided for teachers to acquire new skills.

   In an attempt to rectify some of the difficulties they faced, the literacy team arranged for a consultant from the vendor (ACER) of the PAT products to attend a staff meeting to talk about how to improve the validity and reliability of data. Reflecting on the session, Cameron said that:

> Since we've done the PAT-R, we've had the ACER people come in and they've said that you are only supposed to do it really once a year anyway. So… But we're using it twice. So… It will be interesting to see what the data team says as far as: do we keep doing it twice, or can we just do it once? …. Yeah, no it's not valid because it's not being used the way it was intended to be used. Which I don't think they realised at the time when they started doing it. They just thought it was a good tool. But then that PD that we did with the ACER people, they said, 'well it's not supposed to be done that way.' So yeah, it just shows you. *(Laughter).*

Cameron's point that "they didn't realise when they started doing it" is something that teachers on the literacy and data teams agreed with. At the time, their focus was on improving reading pedagogy and finding a way of ensuring that no student "slipped through". In response to the ACER advice to only test once per year, Jennifer explained to me that the school would need to have data from the latter half of 2014 so that it would be possible to verify the GRG agreement. As Jennifer said, the process was really "a trial and error thing", with teachers learning "what data we need to collect, and what we need to use it for".

The second round of testing continued to raise concerns for teachers who felt that the PAT-R data they were collecting wouldn't be a true reflection of students' reading ability. Cameron said "you don't know how much kids have remembered from looking at the same test again. They might go, 'oh, I remember this one!' *(Laughter)*". A number of teachers found the practice of using the same test twice within one year to be problematic, which led them to have further, serious doubts about the usefulness of the PAT-R data. As Thomas said, "I don't know about you, but I can remember something I read six months ago pretty clearly". The practice of using the same test led to a further complication for teachers in that it restricted their professional teaching practice. Thomas went on to explain that because students sat the same test twice, it was not possible to give students any feedback on their test result. He said, "due to that we can't really give them direct feedback on how they did on it, or show them… it is kind of counterproductive in that sense". Thomas was not alone in expressing his frustration at not being able to use the PAT-R data to provide students with useful and timely feedback that would support their learning. Although PAT-R was first trialled as a way of understanding how to support teachers to improve reading and safeguard equity, the use of PAT-R data for a secondary purpose had meant this was no longer the focus. The issues around reliability and validity of data were unable to be fully resolved due to the textually-mediated focus on collecting data twice within a year in order to verify the GRG agreement.

The ACER session also raised other issues that remained unresolved. For example, in their bid to improve the reliability of PAT-R data, the school had issued strict instructions in 2014 that teachers must follow the procedures in the PAT-R test information packs, including adhering to prescribed test times. As Cameron explained, "[Some] children didn't finish in time. The ACER guy said, 'you should

give the kids some extra time.' Whereas we were told, see no.. see? Conflicting information. We were told, no". This conflicting information on test administration – between the teachers' test administration instruction materials (from ACER), the school, and the "ACER guy" – was another reason that teachers across the school felt that the PAT-R data had little value. In sum, the teachers felt the data was not valid or reliable, and was of minimal value to students (as it could not be used to provide feedback) and did little to inform pedagogical decision making.

During 2014, the literacy and data teams continued to support teachers to understand what is required in terms of test administration, data collection and entry. Jennifer, Geoff, Sarah and Jason subsequently attended a workshop run by ACER on PAT testing. Reflecting on the process, Jennifer, said that:

> The negative feedback I think we have had is because I think we were a little bit clueless about when it was to be implemented. So the data committee decided that we were going to be implementing the… PAT-R from Year 3 and then we went to PD after that, and figured out we were doing it all wrong.

This reflection that timing and time were central to the difficulties experienced by Jennifer, Geoff, Sarah and all of the teachers at North Bank is interesting. The additional work and the problems with the PAT-R data were caused largely by issues relating to time: the timing of the GRG initiative; the timing of implementing the testing and having accessed professional development; the time it takes to audit data, administer tests, collect data and so on. Whilst the initial purpose of implementing PAT-R testing was to improve teaching, Rosa reflected on this by saying that:

> And you know what? It doesn't matter what we do – whether it's PAT-M, PAT-R… It doesn't matter what it is – sometimes it is like just getting it done, when the most valuable thing would be having time. That's the crucial factor. Time to sit there and analyse the data. And work out – how is this going to shape my teaching? And that is the part. There is such a push… such a focus on getting the data. *(Rosa taps on the desk to reiterate the push as she says getting the data).* There should be more time *(taps desk again on 'more time')* allocated to working out what are we going to do with the data?

Rosa's reflection around the time it takes to test, collect and analyse data is set in a context whereby the textual requirements of the GRG quickly and clearly superseded

the initial purposes for trialling PAT-R. Throughout the year there was an insistence that teachers understand the high-stakes nature of the PAT-R data, and undertake work to ensure that it was correct for the purposes of the GRG. This embodied experience of working with PAT-R data was mediated by the GRG text including a temporal cycle which required the school to publish a "snapshot" update on the school website that used traffic light symbolism "to demonstrate if outcomes [had] been met or exceeded, had substantial progress made, or achieved only limited progress" (Queensland Government, 2014a, p. 1). The notion of a "simple" one-page report brings to mind a document that is equally simple to create. Clearly, this was not the experience of teachers at North Bank as they sought to activate the GRG.

6.2.4 The institutional circuit

Returning to the idea that ruling is organised textually, we can add the GRG to the "intertextual hierarchy" (Smith & Turner, 2014) described above and in the preceding chapters, in that it regulates other texts such as the assessment calendar described in Chapter 5. In the case of North Bank, the collection of PAT-R data was reoriented towards the demands of this text. The GRG as a boss text did not regulate alone, but rather, because it was created with authority that sanctioned particular actions at particular times. For example, school leaders were well aware of the requirement to generate and then "prove" their guarantees using numerical data that could be converted into a visual representation of success using the traffic light symbolism. Returning to Smith's (2014) notion of an institutional circuit, teachers production of new texts becomes part of the textual and temporal sequence.
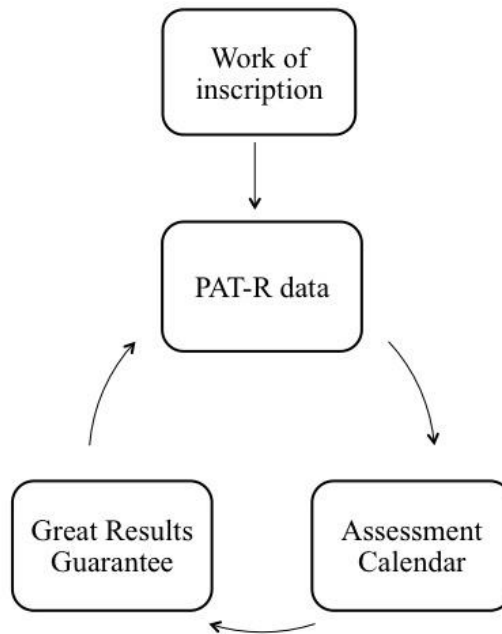
Figure 6.3 Institutional circuit: Great Results Guarantee, Assessment Calendar, PAT-R data

This textual circuit works to keep the decontextualised "facts" that fit into textual shells in view, while obfuscating other possibilities; the work required to produce the data; and knowledge about the validity and reliability of the data itself. In the same way that reading running records created particular truths about students that were oriented towards textual requirements (see Section 5.2.1), so too did PAT-R data. Textually-mediated ruling relations standardise and control teachers' work, orienting them towards various extra-locally produced textual requirements. These requirements are increasingly produced in short temporal sequences, in what Nola (2010) has described as an "acceleration" of time, as has been explicated throughout the analysis in this chapter.

6.2.5 The acceleration of time at the local level

The rapidity of changes in time structures has been theorised as part of late modernity, which is characterised by a change in the pace of life and social relations (Ulferts, Korunka, & Kubicek, 2013). The increasing digitisation of work has changed how texts are produced and reproduced, and has contributed to the rise in textually-mediated work that is standardised across national and international boundaries (Griffith & André-Bechely, 2008). This change is evident at a macro level (for example the speed with which education policies and crises come and go) and at the micro level (for example the acceleration of demands on teachers to meet tight deadlines and perform at speed) (Rosa, 2010). Rosa (2010, 2014) has described

changes using three dimensions: technological acceleration, acceleration of social change and acceleration of the pace of life.

The first dimension, technological acceleration, is a result of employees being required to work with new technologies, which means rapidly learning about new technologies; as well as being required to access, produce and receive more information as a result. The impact of technology on teachers was evident at both schools as teachers reported time spent learning about, and then using new technologies such as databases (OneSchool, Excel spreadsheets etc.). The introduction of each of these technologies required teachers to receive, access and produce a range of information, with transmission of information also being intensified by technological change. A number of teachers described the intensification of work due to technological change, for example the growth in email requests from school leaders, parents and other schools (for example requesting student data when students change schools).

Rosa's (2010) second dimension, the acceleration of social change refers to the contraction of time periods in which decisions are expected to be made. Clearly, this was significant in the case of GRG implementation. Finally, Rosa's (2010) third dimension refers to the acceleration of the pace of life, and refers to the compression of the number of activities that are expected to fit within a particular time frame. For teachers, the requirement to collect data for each item on the assessment calendar has meant that nights, weekends and lunchbreaks are needed to increase their output of data. The acceleration of time ignores the fact that ultimately, time is finite.

The accelerated nature of work, and of ruling relations is also evident in the way education policies such as the GRG are enacted. Ball (2013a, citing Dunleavy & O'Leary, 1987) has described the rapidity of policy change in modern times as a "hyperactivism", characterised by governments that want to be "seen to be doing something" (p. 3). This speeding up of work has been explored in IE research, because it is central to the way in which textual realities are disconnected from the embodied realities of people in the everyday world. Rankin and Campbell's (2006) descriptions of fictitious hospital beds that become realities because they offer a "sleight of hand by which people with no beds are recorded as inpatients" (p. 54) in order to allow a faster flow of patients through a Canadian hospital system illustrates the issue of temporality and ruling relations. The way in which nurses are forced to

make decisions about patient care in this accelerated environment highlights the "essential disjuncture between textual realities on which the exercise of institutionalised governance, of power, is based, and people's actualities as they are lived" (Smith, 2014, p. 41).

Thompson and Cook's (in press) theorisation and analysis of Australian teachers' work raises important questions about temporality. They argue that contemporary education reform has impacted on temporal processes in multiple ways, changing teachers' subjectivities and leaving teachers feeling "time poor" (p. 5). Yet, as Thompson and Cook describe, "teachers are not experiencing time stress because there is less time than there once was. There is as much time as there has always been" (p. 4). Rather, they argue, teachers are wedged between "incompatible" temporal pressures, such as the need to rush through the curriculum in order to cover NAPLAN content; and the desire to spend time with individual students and foster deep learning and engagement with the curriculum. One of their concerns is that, "in this timeline, the beats of the forms of accounting dominate" (p. 10) with NAPLAN preparation, meetings about data and so on overriding time spent on other forms of work. Understanding the lived realities of teachers and school leaders is vitally important, particularly when competing temporal pressures do not align.

6.3 DISCUSSION

The successful operation of ruling relations that coordinated teachers' work as described in this chapter relied on the assumption that numerical data is a neutral and objective way of measuring school and student performance. This unexamined truth underpinned the actions of the school leaders around the state as they rushed to produce a GRG agreement that demanded an "evidence-based" approach. Yet the experiences of the teachers at North Bank indicate that the rush to quickly produce or use data as an objective way of knowing was far from unproblematic. The speed of policy development and implementation had a significant impact on how PAT-R data was able to be used, and on teachers' work. The move to reductionist use of data has continued with the government since releasing subsequent policies (e.g., the School Performance Assessment Framework which is also linked to federal funding) that use a similar traffic light system of representation. This form of reporting was critical to the political cycle as the speed of implementation and reporting enabled the government to make claims about school improvement within less than 12 months.

In November and December 2014, just eight to nine months after the initial agreements were lodged, schools began uploading their snapshot reports to demonstrate whether they were "on track, meeting or exceeding" targets. These symbols did not represent the time it takes to complete the work that goes into creating the coloured dot, or the way that students and teachers are inscribed into reality via chains of textually-mediated relations. Fendler (2008) describes this shift towards governance as relying on "monitoring that is more frequent and faster paced; accountability to more and different bosses" (p. 16). The textual chains can be empirically traced from teacher (PAT tests) to school (assessment calendar) to state (GRG funding policy) and federal government (Students First policy), and demonstrate how these "multiple bosses" rule through a series of related "boss texts". Smith, Miller-Kahn, Heinecke and Jarvis (2004) have drawn on Edelman's (1988) notion of political spectacle to unravel what happens at the other end of policy implementation, saying that once politicians ''had a policy in place, [they] seemed to lose interest in what happened as a result of the policy'' (p. vii). What was important they argued was not the effect, but rather the symbolic ''appearance of having done something'' (p. viii). This certainly appears to be the case with the GRG in that what counted was the appearance of success (as depicted by a traffic light symbol), rather than engagement with what has actually occurred in schools. Braun, Maguire and Ball (2010) have described the rise of "fast policy" as "initiativitis" in that the endless stream of policy continues with little regard for what happens as they are implemented in schools. The GRG lasted as a policy for approximately two years, and was superseded when the conservative government lost power. As various institutional texts were being produced (GRG, PAT-R and the like), it appears that less time was being allocated for teachers to respond to data in meaningful ways. This fast-policy landscape is certainly not unique to Queensland. For example, in an analysis of the U.K.'s National Literacy Strategy, Moss (2009) noted that "Ministers build their reputations by having new programmes to announce... To stand still is not really an option" (p. 166).

The goals of teachers at North Bank in 2013 – to ensure that every student in the school had access to quality reading pedagogy – may appear to align with the GRG agreement in which the school would be required to "guarantee" student improvements in reading. However, the differences between the textual requirements

of the GRG and the teachers' embodied experiences have highlighted a disjuncture that changed the focus of the data use for teachers, reorganised their work, and changed their perceptions about the usefulness of data. As Lingard (2011) has described, an important role for educational researchers is to understand how "objectivity is constituted in policy" including the centrality of the single number in "hiding… productive human work" (p. 362). The purpose of this section has been to understand what happens inside the "black box" (Rose, 2003) of data inscription by looking at timelines of events, and to explore the disjuncture between political and media accounts, textual requirements, and the embodied experiences of teachers at North Bank Primary. For Luke, (2011) explicating the assumptions about "the measurable [and] the countable" (p. 3) is an important way of challenging the silencing of so-called "anti-scientific" (p. 2) views about accountability.

For North Bank Primary teachers, the GRG funding was high-stakes in that it allowed the school to resource key initiatives that were highly sought after by teachers and aimed at improving access to quality teaching for students. Here I note that the funds the school received were used to finance a range of school-based initiatives (such as the provision of additional in-class teacher and teacher-aide support) that the teachers reported as being extremely helpful. However, the agreement was built around data that was never intended for this purpose. How data is constituted and understood is therefore vitally important. The PAT-R data was quickly transformed from a form of data that teachers and the school principal felt could be an important means of working towards equitable outcomes for all students, into an accountability mechanism that was strongly linked to performativity.

In this chapter, I have sought to explicate how an ideological code, imbued in chains of texts altered what happened at the local level. As Kerr (2006) describes, "considerable system disruption creates a false illusion of change, but without any real substantive positive transformation at the level of the classroom" (p. 59). Whilst there was evidence of change in work practices amongst the teachers at North Bank, for many, the concern was that the original intent of ensuring that every student received a quality education was not affected by the work with data that was required for the school to be able to "guarantee results". I finish this chapter by returning to Thomas' reflection on the ideological code underpinning education policy in Australia:

They've been led by independent schools from the libertarian right in the U.S… Corporate schools and charter schools are the way to go. *(Nerida: And the academies in the U.K.…)…* Despite catastrophic failures pretty much everywhere they've been tried. You know, "My ideology trumps your data". *(Nerida and Thomas: Laughter; Yeah).* So they will push on and they will push on…

Thomas' comments about how the move towards neoliberal education reform "trumps" teachers' views of what constitutes deep engagement and learning are thought-provoking. As the embodied experiences of teachers at North Bank has demonstrated, the circular reasoning in which teachers and schools are required to spend time and effort generating data in order to prove data also "trump" equity or a focus on student learning.

Chapter 7: Discussion and conclusion

> So it is all about numbers. Numbers numbers.
>
> *- Teacher*

The focus of this doctoral research has been to explore how the language and techniques of quantification are used as a device for exercising power and control over the processes of education. By beginning from the situated actualities of teachers, I have sought to explicate how quantification in various forms is central to the operation of ruling relations. In this final chapter, I draw together key findings from across the research before considering implications for future inquiry. Finally, I reflect on how the ideological code underpinning ruling texts and the juggernaut of quantification in education has reshaped teachers' work and the organisation of schooling in modern times.

7.1   TEXTUALLY-MEDIATED RULING RELATIONS AT WORK

> It's very… It's extremely high stakes. And then it goes beyond what we do as a classroom, because it then goes to the school level, where our school is judged, and [the school principal's] performance is judged on the NAPLAN results. Funding is given according to the NAPLAN results.
>
> *- Teacher*

Although the research began with teachers' work, the ultimate aim of this institutional ethnographic work was to map the ruling relations that coordinated teachers' situated actualities. The questions guiding this research were:

- What are teachers' experiences of data in their everyday/night work?

- How are the everyday experiences of teachers working with data organised by textually-coordinated ruling relations?

Together, the literature review and analysis chapters established a comprehensive picture in which teachers' everyday work was coordinated by wider ideologically-driven agendas that were made possible through the activation of texts.

7.1.1 The reorganisation of teachers' work: A life that "revolves around data"

> My life revolves around data these days. It has to because it is everything.
>
> - Teacher

Beginning from teachers' situated experiences – what Marie Campbell (2006, p. 91) describes as the "ground zero" of an institutional ethnographic investigation – the origin of this research was a sense of disquiet that the quantification of education was impacting on teachers' work in ways that were worthy of further investigation. Here I return to the experienced teacher who began her interview with me by saying that "well my first comment is that data is the new, dirty, four-letter word. You know, it was just like, BOOM! And it's all about data". From this beginning, the research traced "how things work" (Campbell, 2003, p. 11) using an analytic process that involved following and mapping chains of texts from the local to the extralocal. Using texts to analyse structures (such as funding and education policies) that coordinated teachers' work from beyond the local helped to establish a picture of how power was exerted over teachers' work. In Chapter 3, I provided a history of federal and state policies that cascaded down into teachers' work before and during the period of data collection. The subsequent analytic chapters demonstrated that these chains of texts orchestrated the situated actualities of teachers at the local level – often through the production of local texts such as school assessment calendars and the like. This reorganisation of teachers' work occurred both inside and outside of the classroom, and certainly well beyond the hours specified in industrial agreements. Figure 7.1 illustrates the nature of textually-coordinated ruling relations as driven by chains of texts that draw on discourses of quantification.
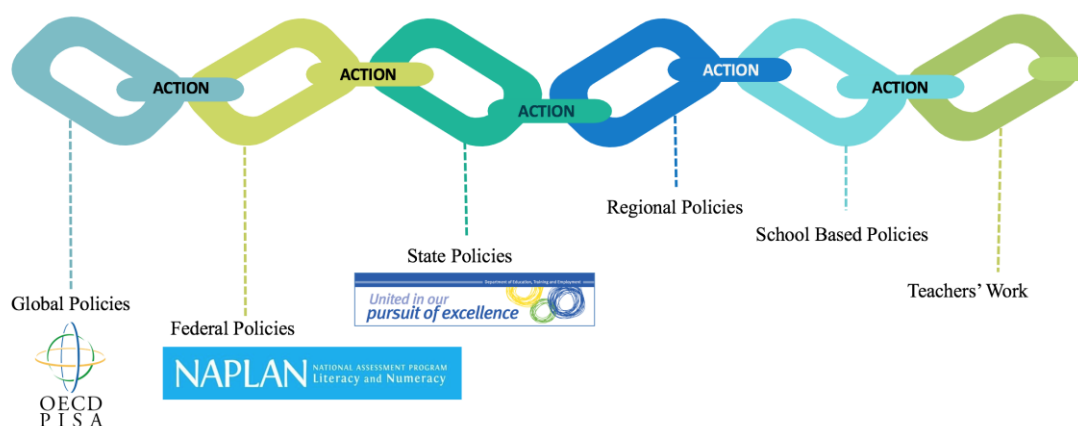

Figure 7.1 Visual depiction of chains of texts that form part of ruling relations

Figure 7.2 provides further detail to explain how chains of text work operate to organise what happens translocally.

Global and edu-business texts
Global edubusinesses and institutions such as the OECD produce large scale global numeric data (such as PISA) that enables national and subnational comparison.
These datasets are often used by national policymakers to justify national reform.
Edu-businesses work in partnership with governments and policy institutions to quantify and standardise education through the assembly of statistics and policies that foreground standardisation and quantification. These non-state actors also produce assessment products and services that are sold to educational institutions.

Federal texts
The federal government produced a series of policies and texts that established the need for large scale quantification by drawing on neoliberal arguments around the need for comparison, competition and standardisation. Subsequent policies have established standardised data as a mechanism for accountability and control (particularly given Australia's vertical fiscal imbalance). Socially constructed categories enable comparison across populations and subpopulations; and foreground neoconservative curriculum and pedagogy (for example by focusing much of national testing on literacy and numeracy)

Regional and state texts
State governments, education departments and regions produce policies and texts that set quantified targets using benchmarks and existing categories (such as "U2B" (Upper two bands) and "NMS" (National Minimum Standard)). These are often tied to symbolic and material rewards (such as funding and principal supervision). These also direct regional offices and school principals' practices, for example by mandating a focus on test areas (most commonly literacy and numeracy).

Local texts
School principals produce local policies and texts that require teachers to alter curriculum, pedagogy and assessment in order to meet regional and state requirements. Some of these locally produced documents are mandated by state and/or regional policies with specific school improvement planning requirements.

Teachers' embodied work

Inside the classroom
Curriculum, pedagogy and assessment are reoriented towards quantification in order to meet the demands of local and extralocal texts such as regional improvement plans and school assessment policies.

Outside the classroom
New forms of work are required (such as preparing for and participating in "data conversations" and meetings) as well as ongoing calculative (such as recording, analyzing and responding to standardised, numeric data)
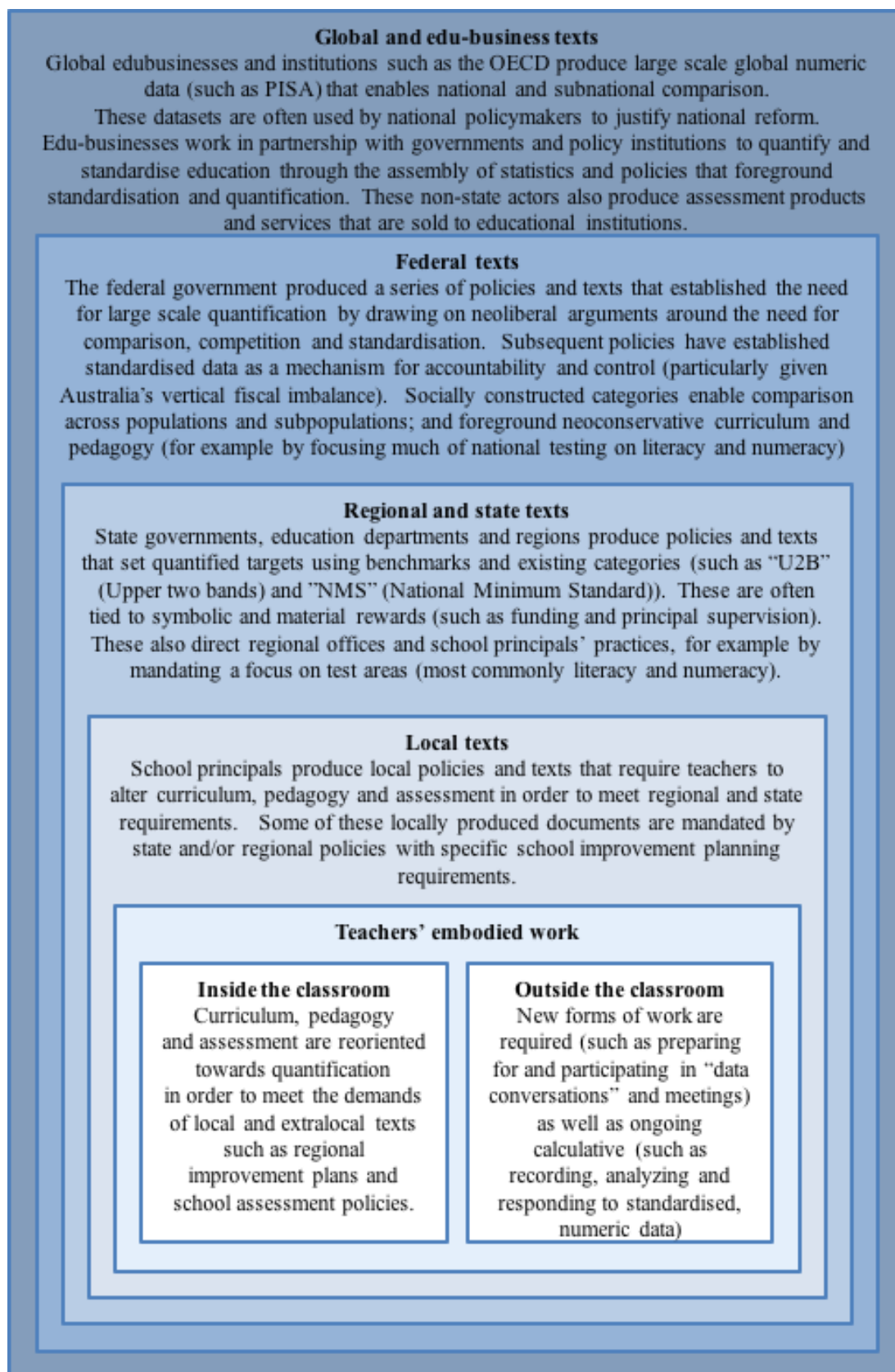
Figure 7.2 Map of ruling relations and the translocal reorganisation of teachers' work

The analytic process of mapping empirically traceable intertextualities (for example between national and state education funding policies) demonstrated the magnitude of ruling structures driven by ideological ideals of comparison. These ruling structures cascaded into teachers' work in multiple ways organising their doings both inside and outside of the classroom. The view promulgated by bureaucrats and the media, that standardised assessment only changes three days of schooling (e.g., Randall, 2014b), fails to take into account the multitude of policies that exert control over teachers' situated actualities. In his analysis of policy enactment, Ball (1993b) describes that some policy texts "are never even read first hand" (p. 12). Certainly, in this study teachers and even principals had either not read, or were not aware of, key policies that were part of textual chains that reorganised their work. For example, a number of teachers indicated that they had not heard of policies such as United in Our Pursuit of Excellence, even though it was enacted by regional bureaucrats in ways that had a direct impact on their work (see Chapter 4). Nevertheless, when the operation of ruling relations comes into view, it is perhaps unsurprising that a teacher would describe that her life now "revolves around data" because data is "everything".

The textually-mediated operation of ruling relations is underpinned by an ideological code that not only discursively forms statistics and numbers as unproblematic, objective and neutral; but also, uses numbers to bolster neoliberal ideals of marketisation, competition and new public management. As text-action-text sequences eventually made their way into schools, it was often in the form of locally-produced policies instituted by school leadership teams. Examples of these included mandating the collection and assembly of additional local data; a focus on teaching basic skills literacy and numeracy using standardised and so-called "high yield pedagogies" and so on, in response to regional demands to improve NAPLAN data.

Although there is a range of existing literature that points out the perverse consequences of high-stakes testing such as a narrowing of the curriculum and teaching to the test (e.g., Klenowski, 2011; Stobart, 2008), the unique contribution of this research has been to map the operation of extensive textually-mediated ruling relations by drawing attention to the often invisible work of teachers. The research has demonstrated that the narrowing of curriculum, pedagogy and assessment is extensive.

The translation of educational statistics such as NAPLAN data into an outcome of teachers' work was significant because it authorised subsequent textual insistence that principals and teachers can and must improve quantitative data. From the time of NAPLAN's introduction, the push to improve NAPLAN data was enshrined in texts such as the Schools Assistance Act and National Partnerships, which tied improvements to symbolic and/or material rewards.

This policy model has been replicated in policies such as the Queensland's Maximising Achievement policy, Teaching and Learning Audits and School Performance Profiles. As has been shown throughout the thesis, these texts set in train series of text-action-text sequences that have a compounding effect at the local level. For example, as regional directors and then school principals sought visible improvements on School Performance Profiles, local policies were instituted that oriented teachers' everyday/night work both in and out of the classroom towards data. Teachers subsequently spent holidays and weekends preparing data placemats and spreadsheets; they participated in data conversations; and they reoriented curriculum, pedagogy and assessment towards achieving NAPLAN improvement. This orientation towards high-stakes data was evident at both East Side High and North Bank Primary. Here I note that NAPLAN was not the only form of high-stakes data coordinating teachers' embodied work. For example, when a local decision was made that tied PAT data to a funding policy, it transformed the nature of teachers' work and the way they engaged with the data.

7.1.2 The proletarianisation of teachers' work: "It's mandated"

> … we expect every maths class in Year 8 and Year 9 to have the first 15 minutes around NAPLAN style questions.
>
> > - Principal

> No no. It's mandated. Right! Year 1 to Year 7, this is like… like we know that this week everybody is doing South Australian Spelling Test B.
>
> > - Teacher

The requirement that teachers deliver rapid improvements – represented as quantified national and local measures – is built on a basic supposition that consumers (parents) and funding bodies (governments) can and should monitor and control the work of

teachers. The insistence that teachers and principals are able to deliver measurable improvements was evident in state, regional and local directives. As regional directors and principals sought improved data, they created local policies that standardised and controlled assessment, curriculum and pedagogy. These changes removed teachers' professional discretion and control. In 1988, Ozga and Lawn described proletarianisation as the process by which "the worker is deprived of the capacity to both initiate and execute work, it is the separation of conception from execution, and the breaking down of execution into separate, controllable, simple parts" (p. 324). Andreas Schleicher (2008) describes this form of control as "informed prescription". As the history presented in Chapter 3 demonstrated, Australia has experienced a mushrooming of policies that have aimed to break education down into standardised and quantifiable categories that have increased management control since the 1990s. The extent of this control has been demonstrated across this thesis.

Much of the acceleration of data collection and reporting has been enabled by technology, which has allowed various forms of data – from locally collected measures uploaded on departmental databases to large-scale national testing data – to be closely scrutinised by school leaders, education bureaucrats and politicians. The expectation that data can be quickly collected, assembled and reported was evident in government, departmental and school-based documents. The use of the documents such as the School Performance Profile (see Chapter 4) to drive school improvement had direct implications on the pace and content of tasks undertaken by teachers. Documents such as the School Performance Profiles were activated by regional directors in ways that changed materialities and subjectivities for principals. As principals sought to ensure their schools stayed out of the "red", they mandated school-based policies that directly changed teachers' work. Teachers reported having less autonomy over the kinds of data they could collect and how it was used. The requirement to collect and report on standardised data was just one loss of autonomy. Teachers' work both in and out of the classroom was also being controlled to a great extent – from requiring teachers to institute NAPLAN "do nows" at the start of each lesson to ensuring that classroom assessment was aligned with NAPLAN requirements. As one teacher described, teachers' work was now so prescriptive that she now knew that every teacher was conducting the same spelling

test in the same week of the school year. Apple's (2013) analysis of the gendered and classed nature of the proletarianisation of teachers' work is important here, given that the percentage of female teachers has grown steadily since at least the mid-1980s. In 1986, women comprised 41% of the Australian teaching workforce (measured as full time equivalent teachers), with the percentage growing to 71% by 2015 (ABS, 1987, 2016). This scripting of teachers' work erodes women's power by reducing control over their situated actualities.

These changed conditions exist within a landscape where official accounts assume that marketisation and devolved responsibility through quantified accountability structures will inevitably lead to improved quality. While policies such as Students First (see Chapter 3) appear to shift the locus of control to schools and teachers, quantification has provided new opportunities to control teachers' work. The operation of textually-mediated ruling relations comes into view when we consider how Queensland's mechanism for distributing Students' First funding was taken up. The analysis in Chapter 6 revealed that as the GRG was activated at the local level, it reoriented the focus from students and learning towards accountabilities. For example, in their bid to prove they had met their guarantee, ethically made decisions such as the decision not to test students who spoke little or no English were subsumed by the need to demonstrate quantified improvement.

Thus, while school principals were purportedly being given more local freedom by some policies (such as Students First and the GRG), heavily quantified accountability structures changed power relations and constrained possible actions, as illustrated by the remarkably similar principal responses across all six schools that participated in the ARC project. The ultimate effect of decisions made by principals and regional staff as they activated texts such as the School Performance Profile was a loss of teacher autonomy. Here I note that the two principals at East Side High and North Bank Primary fought hard to retain as many freedoms as they could for their teachers. But, as teachers from both schools described, the insistence on improvement came "from above". The mapping of textual chains undertaken for this research confirmed teachers' hunches that power operated from outside their local sites. The boss texts that regulated teachers' work did not do so alone, but rather, because they were created with authority (by principals, bureaucrats and so on), and because they sanctioned particular actions at particular times.

7.1.3 Conservatisation of curriculum: Seeking "high yield strategies"

> So we look at our curriculum, and our curriculum is targeted specifically for
> NAPLAN…
>
> - Teacher

The orientation of teachers' work towards testing inevitably meant that school curricula were being refocussed towards that which was being tested. NAPLAN's literacy and numeracy focus appeared in multiple text-action-text sequences, as evidenced by North Bank's school assessment calendar, of which eight out of the ten locally mandated tasks tested literacy; one tested numeracy and one tested science (which are both linked to both national and international testing programs). This research has worked to explore *how* teachers' situated actualities, in which curriculum decisions are made on a daily basis, are coordinated by these kinds of ideologically driven texts that foreground neoconservative values. The decisions made by principals in response to bureaucratic pressures meant that teachers were expected to ensure their work was focused on literacy, and to a lesser extent numeracy. Again, I draw attention to the principals' view that while they believed much of the institutional focus on numbers was deleterious, it had also led to important literacy improvements for a great number of students. School expectations included that teachers use part of every lesson to teach literacy using standardised pedagogies; using proprietary tests and resources such as *English Skills Builders*; having explicit conversations with students about how to "unpack" the literacy component of NAPLAN and so on. As described in Chapter 6, because time is a finite resource, the focus on basic skills literacy (and to a lesser extent numeracy) curriculum and pedagogy, alongside increasing in-class assessment restricted other possibilities in the classroom.

Teachers' accounts (e.g., Chapter 5) revealed how a growing consistency of teaching practice over time had the potential to limit student learning, in a number of ways including by focussing the teaching of written work on one or two generic text structures over many years. As one teacher had described, after years of learning how to construct a persuasive text, by Year 7, students are "trying to persuade you every step of the way". Others were concerned that the focus on streamlining pedagogies and curriculum to deliver rapid improvements to data (see Chapter 4), inevitably excluded in-depth teaching of more complex ideas, or revision of difficult concepts.

Teachers were concerned (see Chapter 5) that lessons were dry, dull and boring, with the result being student disengagement and resentment, as they had little time to prepare or deliver interesting lessons. The translation of data as an outcome of teachers' work, along with the insistence on achieving demonstrable improvement, has defined teaching according to a narrow range of socially-constructed categories (such as the achievement of U2B students). For teachers, this narrowing restricted their personal ideals about education such as the importance of critical thinking, social justice and alternate curriculum areas.

As one of the six principals said in a meeting of school leaders, "So the advice we're giving kids about [post-secondary] pathways is actually, I think, going to narrow the curriculum that we offer and some subjects [such as dance] will die on the vine so to speak". A century on from the publication of John Dewey's (1916) *Democracy and Education,* we see a preponderance of texts that insist on improvement in literacy and numeracy. Dewey advocated for progressive and constructivist teaching, arguing that students' embodied experiences of life and education should not be separate from the formal knowledge acquired in school. To quote Dewey (1916), "were all instructors to realize that the quality of mental process, not the production of correct answers, is the measure of educative growth something hardly less than a revolution in teaching would be worked" (p. 207). The research presented in this thesis indicates that the narrowly conceived versions of literacy and numeracy entrenched in multiple institutional texts represents a retreat from the progressive ideals espoused by Dewey so long ago.

7.1.4 Limitless intensification: "It's showing no signs of abatement"

> You have no idea how much time I spent at nights and on weekends. Yeah...
> But we do have that [performance management conversation] coming up.
> *(Resigned voice).* Yep. But you know, when you see that, you think… *(very quiet and sad sounding)* you know… what's the point? What-is-the-point?
>
> - Teacher

The claustrophobic focus on improving data, that was downloaded from global to national and ultimately local texts meant that teachers' work at both schools was greatly intensified. Tying statistics to symbolic and material rewards, for example through changed principal supervision structures, funding policies and data publication devolved responsibility for improvement onto regional directors, school

principals and eventually, teachers. Although devolution of responsibility (for example in policies such as Students First and the GRG) is ostensibly a means of ensuring local decision making and control, technologies of standardisation, measurement and accountability, activated in text-action-text sequences transformed governance and the nature of teachers' work. At both schools, the pressure to deliver improvements required teachers to undertake new and intensified work. Some of this work – such as teachers' work in administering NAPLAN – was scripted and mandated by education departments. Much more work – such as collecting and reporting on PAT data – was mandated by school principals. Although the nature of teachers' work has long meant that teachers are vulnerable to "limitless intensification" (Connell, 1985, p. 72), the increased technologies of surveillance enabled by data driven accountability structures meant that school principals, regional directors and state bureaucrats were now able to monitor teachers' work in accelerated timeframes. Documents such as the data placemat at East Side and the school assessment calendar at North Bank required teachers to undertake work that extended into nights, weekends and holidays. The material realities – for example of collating data into a placemat over school holidays only to discover that the class list has changed on the first day of school, and that the whole process had to be repeated on the weekend – meant that many teachers were left feeling frustrated and fatigued. Teachers' views about the validity and usefulness of this work widened the disjuncture between official and embodied accounts of data. Teachers and principals raised serious ethical questions about the validity and use of data, yet continued to undertake the required calculative work in good faith.

The changes to teachers' work were evident both in the traditional face-to-face work of teachers, who reported that students were being assessed from the first to the very last week of the school year; as well as in the work that was required beyond the classroom door. The push to undertake additional testing and achieve results left a number of teachers feeling that they had "lost teaching time". One teacher described that accelerated expectations meant that "we're just pushing information through", rather than engaging in substantive conversation with students or in-depth teaching of content. Many of the now routine tasks (such as calculating raw scores and stanines before entering them into the departmental database) meant an erosion of teachers' personal time. The "lopsided nature of accountability" (Smyth, 2006, p.

306) meant that while teachers (and students) were expected to deliver measurable performance improvement, there was not always clear evidence of accompanying support from bureaucratic institutions. As one teacher described, this intensification was showing "no signs of abatement" despite there being a lack of evidence that the additional work was having a positive impact on students' learning.

7.1.5 Mediatisation of policy and acceleration of time: Data as a persuasive device

> Journalists use data as persuasive devices.
>
> - Teacher

The increasing use of numbers as part of both policy and media spectacles has implications for the discursive construction of teachers' work as well as in the reorganisation of teachers' work. Chapter 3 of this thesis describes how global and national comparisons have increasingly been used by both the media and policy makers to justify further reform over the past decade. The accelerating pace of change and the ideological code underpinning mediatised policies such as the GRG (see Chapter 6) had significant effects on the work undertaken by teachers both in and out of the classroom as they worked to "prove" their school guarantee. The increasing pace and frequency of data collection were central to the embodied experiences of teachers across the year at both schools. Both mediatised policies (such as the GRG) and media reporting of data increasingly used visualised and reductive datasets that drew on socially constructed categories, and were translated as a form of knowledge about teachers and students.

As Rose (1991) has described, the relationship between governance and statistics is "mutually constitutive" (p. 675) in that politicians and bureaucrats depend on numbers in the enactment of policy; yet public knowledge is shaped by the purportedly objective truths that statistics can appear to reveal. It was clear that numbers were used to justify a raft of policy decisions – from the introduction of NAPLAN and Students First funding to the school-based mandates for teachers to alter curriculum, pedagogy and assessment practices (see Chapters 4 and 5). The emergence of new technologies of standardisation, quantification and publication have also enabled more rapid communication during text-action-text sequences, thus generating more claustrophobic accountability structures. For example, as regional directors activated School Performance Profiles, principals created "fast boat"

strategies in which they were expected to bring about rapid changes to teachers'
work in ways that would deliver significant statistical improvements in under three
months.

7.1.6 Performativity: "Not getting where we need to be"

> … there is just a general feeling that we're not getting there. Not getting
> where we need to be…. I think it was two years ago when one of the Year 9
> teachers started crying and saying she felt really, really pressured, they
> probably did [understand the pressure teachers were experiencing] then. But,
> yeah… maybe not to the extent of what is being felt now.

> - Teacher

The ideological code that underpins quantification is driven by a discursive
construction of teachers as being in need of increased surveillance, monitoring and
management. For example, arguments in favour of publishing standardised test
scores are built on ideas of "bootstrapping", a process in which competition and
performative pressure will cause "underperforming" schools to pull themselves up by
the bootstraps (Comber & Cormack, 2013, p. 79). Foucault (1975/1995) described
visibility as a "trap" (p. 200) made possible by "eyes that see without being seen" (p.
171). Yet, the rapid growth in information technology has enabled teachers' work to
be closely monitored in ways that were not possible when Foucault described the
operation of surveillance and examination as disciplinary technologies. As the
analysis in Chapters 5 and 6 demonstrates, teachers are not only required to
undertake new forms of work as textual chains are activated, but also inhabit subject
positions within the normalising discourses that use statistics to construct ideals
around what constitutes a "good school", a "good student" and a "good teacher". The
talk in staff meetings and performance management meetings left many teachers at
both schools feeling like a "failure" (see Chapter 6).

Although teachers were often aware of the absurdity of meeting performative
demands (for example, for teachers who were assigned the "lower" streamed classes;
and principals who were advised that all schools should perform above the mean),
the regime of truth in which teachers could pull themselves up by their bootstraps left
teachers at East Side High feeling like "we're just not getting there". This was
despite enormous amounts of time being dedicated to meeting performative demands

(see Chapter 5). The translation of data as an outcome of teachers' work and the logic which attributes blame to teachers was part of the taken-for-granted truth that mobilised teachers to further organise their work around data. Teachers talked about where their own classes "should be" and how they "should be" spending their time (see Chapter 5). Smyth et al.'s (2000) argument that the new forms of regulation are central to the "ideological co-optation of the moral and ethical consciousness of teachers" was certainly relevant here (p. 86). Similarly, Ball's (2003) description of teachers working in this context as "ontologically insecure: unsure whether we are doing enough, doing the right thing, doing as much as others, or as well as others, constantly looking to improve, to be better, to be excellent" (p. 220) is highly pertinent.

As this research has demonstrated, teachers are subject to direct institutional demands to reorganise their work in various ways, as well as being subject to the "terror" of performativity (Ball, 2003) that leaves "no space of an autonomous or collective ethical self" (p. 226). As the principals and teachers who participated in this research reported, working with data often created ethical dilemmas that were difficult to resolve. For example, teachers questioned if time spent on assessing students was a productive use of teaching time; or if testing students who speak little or no English was an ethical practice. These concerns demonstrated teachers' everyday experiences and knowledge of equity, data validity and purpose (as described in Chapters 5 and 6). A contribution of the method of inquiry used in this research has been that it includes yet extends beyond teachers' subjectivities by building up a more fulsome picture of how power relations operate.

It is interesting to note that rather than reporting on the effects of funding and education policy, the most commonly promulgated view in public debates is that teachers' stress is related to public perceptions of teacher quality and the unintended consequences of publishing numbers (Shine, 2015). While the Senate review of NAPLAN (2014) found that the publication of results on *My School* was directly linked with stress in schools (s. 1.36 & 1.37), this research also indicates that performative pressures from large-scale quantification are exerted from multiple channels including publication of results within organisations (e.g., in School Performance Profiles) and externally (e.g., *My School*); as well as the use of numbers as part of funding, performance management and accountability structures. In ways

similar to what were reported in the Senate Review, a number of teachers from East Side High had requested they not be placed on NAPLAN year levels. However, in contrast to the Senate Review, teachers at East Side had talked primarily about performative pressures as bureaucratic policies that demanded improvement were taken up at the local level through discussions of data at staff meetings, the creation of data placemats and so on. Thus, the operation of ruling relations is linked to a range of texts that prioritise numerical improvement. The organisation of education around numbers extends well beyond individual teacher or principal responses to the publication of league tables. Instead, the publication of results was an added pressure at both schools, that compounded the effects of ruling relations. For example, at North Bank, the knowledge that families moved into the school catchment area specifically because of strong NAPLAN results created new forms of work such as having to justify students' results to parents, or explain student results to secondary schools that were using data as the entry hurdle for special-entry extension programmes.

A unique contribution of this research has been to dispute the view that teachers make individual decisions to reorient their work (for example by teaching to the test) in response to performative pressures. While this may be the case, and teachers at both schools did respond to these pressures, much of the organisation of teachers' work around data was empirically traceable through textual analysis. The duplicitous nature of texts in which teachers were simultaneously castigated for teaching to the test while being asked to orient their work towards test improvement was highlighted in Chapter 4. In a submission to the NAPLAN Senate Review (Australian Senate Education and Employment Reference Committee, 2014), the Australian Primary Principals Association argued that:

> Teachers, despite knowing that they should not be teaching to the tests, do alter the regular curriculum delivery to 'train' the students in the peculiarities of the tests. Much time is given over even in the previous year to NAPLAN, to enable the students to have the best opportunity to demonstrate their skills and knowledge (s. 3.3)

However, as the research presented in this thesis indicates, much of teachers' orientation towards various forms of assessment is not borne out of individual decisions to train students for testing. Rather, teachers' work is situated in a context

where textually-coordinated relations prioritise measurement and that which is being measured. As demonstrated throughout this research, this included reorganising existing work (for example teaching to the test to the collection of additional data) as well as creating new forms of work (for example preparing for, participating in, and responding to data conversations and meetings).

7.2   ASSOCIATED INSIGHTS AND PERSPECTIVES

7.2.1 Teachers' contestations of the objectivity of numbers

> It's all valuable but at the same time, when you question something *(pause)...* it's not that you are ostracised… You feel… you don't feel the confidence that you can question it. Because everything has come from above. And so you have to accept things at face value. And when you do question it, you are treated like an idiot.
>
> <div align="right">- Teacher</div>

While teachers' concerns about data were framed as in the media as anti-improvement (e.g., Ferrari, 2011; Morton, 2013), teachers at both schools used data as a regular part of their practice, and experienced teachers reported that they had done so throughout their careers. As numbers were increasingly being collected in standardised forms (in the form of both large-scale assessments such as NAPLAN and local measures such as WTW and PAT tests), teachers at both schools offered many insights into the reliability and usefulness of data. From the tests at North Bank that made students appear to be regressing (see Chapter 6) to concerns at East Side that online testing had the potential to decrease student engagement in tests (see Chapter 5), teachers were in a unique position that afforded them the opportunity to make astute observations about the validity of statistics. Although teachers had concerns about tests and resultant statistics, they were also concerned with the interpretation, use and consequences of educational statistics, particularly when linked to accountability structures. In addition to concerns about the validity, use and effects of data, teachers reflected on the ideological agenda behind the use of numbers in schools. For example, a teacher at East Side High said, that "I don't know… should we [use data more]? That is a big question…"

As Porter (1996), Hacking (1990), Desrosières (1998) and others have demonstrated, because calculative work purports to remove impartiality, quantified data is often discursively formed as objective, reliable and fair, despite its social

construction. As the analysis in Chapters 6 and 7 reveals, the visibility afforded to bureacrats and the public by numbers obscured teachers' genuine concerns about the rise and rise of numbers in schools while documents such as the School Performance Profile and GRG purport to increase transparacy beyond the local level. For Porter (2012), these situations can often go unrecognised by participants who are "so often bound up with the sober bureacratic and professional rituals" (p. 597) required to produce numbers. The benefit of applying an institutional ethnographic method of inquiry to this study has been that the focus began with examining teachers' often mundane work with numbers before tracing how numbers are used to govern education systems through a complex, textually-mediated web of ruling relations.

In moving away from universalising views of numbers as inherently good or bad, discursive space must be opened up in which teachers can contest particular aspects of data and data use, and to resist unproductive forms of accountability. In writing about the resistance and refusal of neoliberal governmentality, Ball (2015b) described himself as entering into a "theoretical silence" around contestation. Drawing on the work of Foucault, Ball argued that speaking the truth boldly and fearlessly is a form of parhessia (cf. Foucault, 2001) (in which a speaker tells the truth as a moral duty) that involves risks for teachers. Certainly, the teachers in this research identified instances in which they had taken risks – for example, to be marginalised, ridiculed or publicly censured. One teacher even confided in me that she had refused to do further in-class assessment, telling the principal that she would risk being fired before inflicting additional testing on her class and herself. As Ball (2015b) writes, doing so "makes new sorts of statements, new sorts of truth, imaginable" (p. 3). The regime of truth in which public and official discourses cast numbers as inherently trustworthy, objective and unproblematic can be challenged as teachers and academics open up discursive spaces that enable teachers to resist, challenge and discuss data-use in schools. Smyth (2006) similarly argues that rather than accept the "political violence" (p. 304) inflicted on teachers, we can and must critique and question discourses and practices of accountability. Again, here I stress that critique of statistics does not mean a total refusal of statistics or accountability. As described above, the teachers in this study had long histories of working with both quantitative and qualitative data, and were certainly not averse to doing so in the future.

7.2.2 Holding teachers (not power) to account

> For all the fuss about the Finnish system, the Finnish system *does* use standardised tests, they just don't use national standardised tests. They still assess children. They still assess reading. They start at age seven, and if anyone looks like they are… like… they use standardised assessments to decide if anyone is falling even half a point behind the average, and that's when they pounce. They might give them three extra support personnel for the next two years. And that is why they're the best.
>
> -Teacher

The use of numbers as a key technology to surveil and control teachers' work meant that teachers were subject to relentless cycles of performativity, as they sought to demonstrate that they were meeting targets. As one of the more experienced teachers described, "now there's a list there that says [what student outcomes are required] … We didn't have that before. Now you've got to *prove* that we are doing something in schools". Although there is a raft of policies that insist that the use of numbers provides transparency (see Chapter 3), the work required to produce data was extensive, yet seems to remain largely invisible outside of schools. Yet while national, state, regional and local policies worked to hold teachers and school leaders to account, there was less evidence that policy makers were also being held to account. For example, when the GRG was released, there was little media attention given to moves away from the Gonski funding model.

The magnitude of ruling relations, enabled by technology and converging global ideologically-driven policy, meant that teachers' work was reorganized and "held to account" both in and outside of the classroom. As Baroutsis (2016) has argued, although governments, education departments and the media seek to hold teachers to account, there is little evidence that government practices are similarly held to account. In the case of the GRG, the policy was discontinued after just two years (when the government changed), with no publicly-available evidence that indicated if the policy had been scrutinized or evaluated to measure if it had indeed increased student literacy and numeracy as claimed in the initial marketing material. It also appeared that there was little support for schools or teachers as they sought to implement their guarantees, in what Darling-Hammond (2010) describes as "a reciprocal accountability system" (p. 280).

7.2.3 Equity

A key concern arising from the research was the implications for equity in Australian education. While reforms towards quantification have often been justified by reference to both national and international standardised data (e.g., Gillard, 2008; Pyne in Alberici, 2014), there is little evidence that increasing the scale and pace of quantification has made significant inroads in reducing inequity. As Windle (2015) and Kenway's (2013) analysis of Australian schooling have demonstrated, significant structural inequalities have been exacerbated by the increased marketisation of schooling. The evidence presented in this thesis demonstrated that numbers are increasingly being used to "divide and classify" students in ways that are unhelpful in reducing inequity. For example, as school principals and teachers sought to improve results, they made decisions such as streaming students according to various numerical datasets (such as NAPLAN and in-class achievement). The rise of quantification has thus also led to a resurgence in streaming practices, despite the fact that the practice has long been shown to widen existing gaps between students (e.g., Jackson, 1964; MacQueen, 2012, 2013; Rist, 1970). Reporting on the widespread use of streaming and tracking of Indigenous students in Australia, Luke et al. (2013) noted that the fact that there is no clear policy directive requiring schools to stratify students by ability also means that there is no formal reporting or documentation of how widely spread this practice really is in Australian schools. Clarke (2014) has suggested that this silence has led to a "burgeoning practice" and "policy by default". As the evidence in this thesis indicates, this policy by default has reorganized the situated work that occurs in schools through the activation of chains of texts that insist upon number-driven improvement. As one of the school principals described, "once upon a time teachers didn't speak about it [ability grouping or streaming]. Now, we don't hide it... it's an accepted way of speaking".

The situation at North Bank Primary, where well-off parents were moving into the school catchment area, and where numbers were increasingly high stakes as they were being used to determine entry into selective public schools exemplifies the functioning of this system. The use of numbers to stream students has the potential to further residualise some students within-school; nested in a system that is increasingly residualised at the between-school level (cf. Kenway, 2013). Principal decisions presented in Chapter 4, such as the streaming of classes and the allocation

of the most experienced teachers to year-levels with high-stakes assessment demonstrate how this translocal organisation is achieved. The effects of streaming in an already inequitable education system requires much further research, particularly given that this research indicates that there was evidence of streaming occurring from the early years through to the senior years of schooling; impacting students' long term educational and life-course trajectories. Teachers at both schools were aware that practices were emerging in which quantified data was being used to stream students into extension programmes that were promoted in the education marketplace as a means of attracting high-performing students. As one of the teachers at East Side said, "we honestly need to ask it [is streaming making a difference] … Because at the end of the day we might say, well [streaming] doesn't matter in any way except marketing. And if we are happy with that, then so be it… But, you know".

The rise in policies that use differentiated supervision to control schools and school policies is also of concern here. As described in Chapter 5, principals were well aware of how the data was closely linked to changing models of principal supervision. Some of the principals had experienced tight management through the regions, for example through two-weekly data cycles. Since data collection for this research was carried out, Queensland's education department has instituted a new policy (e.g., Education Queensland, 2015) that uses differentiated models of school review. For example, schools are assessed as being "high-performing", requiring "priority support" or "other" (p. 3) according to quantified data on the school profile as well as a new document that uses so-called "headline indicators". There is already evidence emerging that these new quantified datasets are being used to manage performance in unanticipated ways. In March 2016, the Queensland Teachers' Union wrote to the Director-General to ask for clarification around how headline indicators *should* be used, as principals around the state were reporting that it was already being used to judge both school and principal performance.

If the research presented in this thesis is indicative of possible future consequences, then the outcome might be that schools deemed to be "underperforming" (QTU, 2014) will be subject to regional and principal directives and pressure to focus more than ever on short-term improvement in high-stakes data; while "high-performing" schools retain greater freedoms. The analysis presented in Chapter 6 in which principals reported that ARDs insisted that schools guarantee

NAPLAN improvements – particularly among the schools not above national mean – demonstrates how textually-mediated relations operate. Hardy (2015b) has argued that we must ensure that logics of enumeration do not dominate schooling "if we are to foster schools as sites of education, rather than simply standardised testing" (p. 359). I also argue that we must ensure these logics do not dominate schooling if we are to create schools that are equitable and just sites of education for all children, not just a select few.

7.2.4 Rise of edu-businesses

> Well [the ACER guy] came out [to the school] just to explain the data and
> things like that. And plus, probably, push their product as well…
>
> - Teacher

The review of policy, combined with a method of inquiry that began with the situated work of teachers has also revealed the extent to which edu-businesses such as ACER and Pearson are now located within multiple levels of education – from global and national policy formulation and enactment down to the doings of teachers as part of their everyday work. Although perhaps not technically an "edu-business", in that it is a not-for-profit entity, ACER is undeniably a significant non-state actor in the education marketplace for profit businesses such as Pearson. Quantification has provided a unique moment for non-state actors to develop expanded opportunities both via contracts to develop and deliver public policy, and through the sale of retail products. The moves towards quantification at the global level have largely been facilitated by edu-businesses and institutions (such as the OECD and ACER). These shifts have been used to justify similar national reforms, which have also been facilitated by non-state institutions.

National policy development and delivery (including NAPLAN) are also facilitated through public-private contracts (cf. Hogan, 2014). The use of both large-scale standardised assessments such as PISA and NAPLAN (in which edu-businesses have contractual interests) and local measures (such as PAT testing) as part of accountability structures means that edu-businesses are enmeshed in the operation of ruling relations. The analysis presented in Chapters 5 and 6 demonstrate the line of fault between the objectivising views of numbers from these measures as unbiased and objective, and the experiences of teachers. The analysis also demonstrated the significant effect on the organisation of teachers' everyday work. These texts were

often central to the operation of institutional circuits that orchestrated a great deal of teachers' time.   The time taken – both in and outside of the classroom – to collect data using proprietary products such as *Words Their Way* and the *English Skills Builder* was significant. These texts are often oriented towards NAPLAN improvement, putting edu-businesses in the unique situation of being contracted to develop and deliver policy (including NAPLAN, the Teaching and Learning Audit tool and so on), while simultaneously selling products aimed at remediating the problems diagnosed through the policies and audits that they developed.

Describing the U.S. context, Hursh (2015b) has described these changes as representing a "paradigmatic shift" in which education has been "turned over" to "those who are generally unelected and unaccountable" (p. 9). The purpose of this research has been to understand what happens inside the "black box" (Rose, 2003) of collecting data, including teachers' use of proprietary products and assessment. Although the research was not designed specifically to investigate the expanding role of edu-businesses in education, the textual evidence across multiple levels (global, national and local) along with the embodied experiences of teachers demonstrates that edu-businesses are now central to the operation of ruling relations.

7.3   IMPLICATIONS AND POSSIBILITIES

> That is the data story. The easy thing for politicians to do is to just see the red [data on a spreadsheet]. Maybe part of our job is to teach politicians how to do data…
>
> - Principal

7.3.1 Alternate discourses in schools

The purpose of this research has not been to simply reject measurement, assessment or quantification, but rather to explicate how these practices are linked to the operation of ruling relations, and to understand how education is translocally organised through the activation of texts that insist on and promulgate these ideals. As the teachers in this research demonstrated time and again, there is a vast and longstanding knowledge base within schools about how statistics can be used to inform teachers' work and to improve student learning. Experienced teachers at both schools recalled long histories of collecting and analysing data, even recounting times when this occurred as a form of resistance, such as during the "whole

language" era when some principals had instructed teachers not to teach and assess spelling. As is clear from the evidence presented in Chapters 5 and 6, teachers' resistance to data was not based on an anti-assessment or anti-numbers stance, but rather, was based on teachers' concerns about data validity and consequences borne out of everyday/night situated experiences.

At both schools, teachers reported using a range of both qualitative and quantitative data to inform their practice, for example by combining video-evidence of student progress over time; producing portfolios that contained the regular collection of student work to document improvement over time; documentation of teacher interviews and conversations with students that provided student feedback as part of the learning process. At both schools, a number of teachers were excited to share with me the range of evidence they collected (that was not required by the school or to meet other accountability demands). At both schools, the school principals had opened up space for teachers to undertake this kind of work by encouraging teachers to commit to local action research cycles that made use of a range of evidence. A key question emanating from this research is how teachers might be supported to use evidence (both qualitative and quantitative) in ways that provide space for genuine, equitable improvement. As Sloan (2006) has argued, accountability regimes tend to be analysed with either an "all good" or "all bad" approach that obscures the complexities of teachers' work.

Lindsay Kerr (2006) has argued that the "pervasiveness of ruling relations can lead to a debilitating sense of hopelessness, powerlessness or despair" (p. 138) that can be counteracted through activism and "hope-in-action" (p. 139). One alternative to the regime of truth about statistics and governance is not only to contest and refuse neoliberal reforms, but to continue working with students as critical educators fostering a full curriculum, and advocating for an alternate worldview in which multiple forms of evidence count; and in which curriculum, pedagogy and assessment is not driven by neoconservative and neoliberal demands. Berger (2002) argues that because global discourse convergence has created a "claustrophobic" world-view, "another space is vitally necessary" (p. 214). Creating space for teachers to discuss and try out alternative practices is also vitally necessary.

7.3.2 Implications for future research

Student and parent experiences of a quantified education system

The aim of this research has been to contribute to an understanding of how the quantification of education has organised the lived actualities of teachers as they go about their work. Mapping teachers' accounts with policy texts has provided a complex picture in which much of teachers' work is oriented towards discourses of improvement and competition. However, this research has also revealed a range of related phenomenon that have implications for future research. The reorganisation of teachers' work presented in this thesis clearly has implications for students and parents as important stakeholders in education. In documenting teacher and principal experiences, it became clear that the materialities of life for students were also impacted as they were asked to participate in NAPLAN workshops, undertake additional testing, and so on. For parents, the work of being consumers of educational data and of undertaking the work of promoting their children in the competitive world of education requires further investigation. Documenting children's experiences of a schooling system oriented towards numerical improvement would add to existing scholarship (e.g., Howell, 2016) that has examined students' experiences of testing. However, as this research has demonstrated, the reorganisation of schooling goes well beyond testing days, and instead impacts the situated actualities in the classroom over months and years. Howell's (2016) research demonstrates the cognitive dissonance experienced by students when duplicitous messages about the importance of NAPLAN (for example that it should not be over-emphasised) are contrasted with teaching practices that foreground NAPLAN testing. Further research is needed to investigate how the reorganisation of schooling and the proliferation of data is experienced by students and parents, and with what effect.

In undertaking this research a range of questions emerged around parents' experiences of data. What is known about how parents "choose" schools and experience data? How does the prioritisation of particular forms of data (such as NAPLAN) impact on the work required for parents? For example, how do parents make the decision to move away from schools like East Side Primary? How do parents decide to enlist the assistance of outside of school tutoring services? Understanding parental cultural and economic capital in this choice work is

especially important for parents who themselves experienced discrimination or privilege in their own education histories.

In researching student experiences, there is also an urgent need to research the effects of the organisation of schooling described in this thesis on particular groups of students. In particular, the effects of streaming and the residualisation of schooling on students living in poverty and students from Indigenous backgrounds must be a priority. Luke et al.'s (2013) findings that Indigenous students and students from lower socio-economic backgrounds are more likely to receive basic skills pedagogy than their peers in higher ICSEA schools is indicative of the uneven translocal coordination of work presented in this thesis. The effect of data on schools primarily serving students from low socio-economic backgrounds or Indigenous students requires further investigation, particularly given that equity is often invoked as the rationale for increasing data use. In Australia, Indigenous students are also more likely to be streamed towards vocational education pathways, and away from traditional academic, university-bound pathways (Luke et al., 2013). The view of numbers as objective has silenced debate on racial and gender issues; yet practices such as streaming and tracking have also been shown to have had deleterious effects on black students in the U.S (e.g., Smith, Lee & Newmann, 2001; Lipman, 2004, 2011).

As this research has highlighted, the practice of using numeric data to stream students across the course of their schooling lives is emerging alongside the rise of quantification. More research is needed to understand the short and long term consequences of these dividing practices.

Privacy and ethical dilemmas

Over the course of the research, it became clear that teachers' work includes the production and storage of vast amounts of data on students that is retained on the departmental database, OneSchool. Although analysis of this work was outside the scope of this thesis, it appeared from discussions with teachers that much of this information (such as reports on student behaviour, communications with parents) was recorded without the knowledge of key stakeholders (such as parents and students). These systems allow inscribed realities about students and families to be built up over many years, travelling with students over time (for example from one year level to the next) and space (for example when students change schools). As

information technology continues to grow, research into emerging issues around student privacy will be important. The growth in massive technologies of surveillance (such as the collection of metadata) means that policy makers, edu-businesses and bureaucrats have increased opportunities for collecting and using data in textually-mediated ruling relations. Decisions to use metadata and online testing in standardised tests such as PISA, NAPLAN and PAT will have practical implications – for example how should teachers respond when – as happened during online PAT testing at East Side High – students click through online tests without reading the test questions; or cut and paste text to check spelling and find errors. There are also implications for privacy when more and more data of this kind is being collected and used to inscribe textual realities about students and teachers. Research is needed to document and analyse these changes and their effects on the everyday worlds of teachers and students.

Contribution of institutional ethnography and implications for academic debate

This research has attempted to explicate the operation of ruling relations and the way in which global and national ideologically driven discourses have reorganised education translocally. However, as Thompson and Lašič (2011) have argued, there has been little evidence of academic voice in wider debates about NAPLAN and standardised testing. Thompson and Lašič (2011) describe "three disconnected conversations" about NAPLAN – academics (who generally describe theoretical failings of NAPLAN); the embodied experiences of stakeholders such as teachers and students; and the "idealised" discourse that exists in policy texts. Institutional ethnography provides a method of inquiry that traverses these three debates by mapping the embodied experience to texts in order to understand the operation of ruling relations. Because institutional ethnography is a "sociology for people" it is frequently used to "produce knowledge for activism and social movement purposes" (Bisaillon, 2012, p. 608). An implication for this research is to consider how both academics' and teachers' voices might contribute to public debates in meaningful ways. As scholars such as Groundwater-Smith and Sachs (2002) and Cochran-Smith and Lytle (2009) have sought to demonstrate through their work, there is a role for activitist professional teachers. Institutional ethnography provides an opportunity for teachers and researchers to work together in ways that may open up productive

discursive spaces in public debates about the value and implications of education policies.

Further use of institutional ethnography to map how power operates translocally could also help to unravel the operation of global networks. Understanding the local impact of the expansion of global institutions that draw heavily on quantifying practices (such as the OECD, Pearson and the Gates Foundation and so on) into the so-called "global south" will be particularly important.

Institutional ethnographic research in the academy

Both before and during this doctoral journey, I was fortunate enough to have the opportunity to work as a university tutor and research assistant on a number of projects. Some of these were short term contracts, for example lasting between twenty or fifty hours. Others were longer contracts, lasting up to twelve months. During this time, I have had the opportunity to work with and alongside a range of other research assistants and tutors, many of whom have left the academy for a range of reasons, but often because of the precarious nature of life as a casually employed frontline worker. Kimber (2003) has described that the increasing casualisation of academic work has created an "underclass" (p. 42) of workers. From my own observations, the pressures on tenured staff to teach, research and meet service requirements mean that the day-to-day realities of research often fall on the shoulders of research assistants. Whilst I have been fortunate enough to work for and alongside a wonderful and supportive group of (mostly) women, it is clear to me that this is not always the case. As I conducted this research, I often felt that there were parallels between the ways in which school principals attempted to protect teachers from new public management demands and the way in which tenured staff worked to protect me as a research assistant from similar demands within the university. I believe that institutional ethnographic research, in the context of the seemingly ever-increasing casualisation of higher education employment could provide a unique opportunity to understand how the work of research assistants, who are in many ways the "frontline" of university research and teaching, is being reorganised by global education policies. The experiences of frontline workers at universities is important given the significant moves in higher education towards quantification in the form of measurements of "scholarly impact" and the like (cf. Porter, 2012). I strongly believe that the work of research assistants and other sessional higher education workers is

crucial to the operation of universities, and is the basis on which a great deal of research is built.

7.4 CONCLUSION

> Data tends to outwit most arguments… It's cultural. It's a perception that accountability and the ability to track data is more important than learning. It's a widespread phenomenon in education, and I don't think it's going away. I don't think it's valuable. I actually think it's harmful. It's just like NAPLAN is not supposed to be used to rate schools, but of course it is. What else are you doing it for, if it's not to rate schools? Anyone who thought that NAPLAN was not about rating schools was being deliberately naïve.
>
> - Teacher

The process of mapping relations through the analysis of key texts within the institution of education has revealed the translocal organisation of teachers' work. The analysis of ruling structures presented throughout this thesis demonstrates that numbers are now a central organising mechanism in Australian education. What is often forgotten in public debates is that numbers are the product of socially constructed categories and systems that are underpinned by ideological decisions about who and what to count, and for what purpose.

The ideological code that underpins these extralocally produced texts is one in which the human capital purpose meets neoliberal ideals of marketisation and competition. This regime of truth has been normalised and enabled a juggernaut of quantification to have emerged in which a great deal of time and money is now directed at various forms of work that are built around the need to prove educational success and mask failure. In launching a revised Australian Curriculum in 2015, the federal Education Minister Christopher Pyne described it as providing a "laser-like focus" on literacy and numeracy (Bita, 2015b). However, as the analysis presented here demonstrates, the assemblage of texts constitutive of neoliberal reforms that have been put in place over the past decade have already made substantial progress towards orienting schooling towards NAPLAN content.

The preponderance of texts that use quantified data to justify ideologically driven agendas have changed what it is to be a teacher in modern times. It cannot be

assumed that the orientation of teachers' work towards data-driven accountability chains is associated with a rise in the quality of teaching and learning for students. Nor can it be assumed that the explosion of numbers and governance by numbers will subside, as evidenced by recent newspaper articles documenting practices such as schools paying for phonics and numeracy programs in local childcare centres in an effort to improve Year 3 NAPLAN results (Bita, 2015a) and the rise of external tutoring businesses that sell services to improve NAPLAN for children as young as five-years-old (e.g., Bita, 2015c, Martyn-Jones, 2016).

These changes are inextricably linked to the ideological underpinnings that are imbued across ruling relations. The opening lines of the *Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA, 2008) states that:

> Australia's capacity to provide a high quality of life for all will depend on the ability to compete in the global economy on knowledge and innovation. Education equips young people with the knowledge, understanding, skills and values to take advantage of opportunity and to face the challenges of this era with confidence (p. 4).

This statement is constitutive of national and global education discourses in which the purpose of education is framed around the production of human capital and national competitiveness in an increasingly global economy. Yet as Klenowski (2009) and others (e.g., Ball, 2003; Reid, 2002) have argued, education must be "reclaimed" as a "democratising force" (Klenowski, 2009, p. 2) if it is to fulfil its role as a public institution that contributes to collective social justice, the public good, and equity through strong public and democratic identities. These kinds of debates were not lost on teachers, with one describing that:

> There is also a big sort of romantic, classical divide as well. Which is better, you know? What is a *better* pathway? *(emphasises the word better)*… I've heard it often in education. You know, "you should be doing science". Well… the thinking behind a comment like that is for me, very, very wrong. *(Imitates a person telling a student)* 'You should be doing science because you'll get a better job…" For me it is ignorance on one level. That somebody would be saying "*better*". Now how can one subject be "better" than another'? You know, I talk about "fit" and "suitability" to the student. You know? Because we are adults, we think about "contentment" and "fulfilment". And all those journeys. You know it shouldn't just be subject

choice for career. In fact, it shouldn't be… Whereas for me, a country or state is a smart country if it is very culturally aware. You know, that's a big question, isn't it?

These alternative purposes of education require a form of empowerment different to the models of local control embedded in contemporary school reform policies such as Students First.

Throughout their careers, teachers at both schools reported having taken an activist stance by rejecting aspects of educational changes (such as whole language or an emphasis on phonics and basic skills). At both schools, these contestations were often framed by the disjuncture between official texts and teachers' embodied knowledge about what was in students' best interests, or what constituted quality practice. A number of teachers described that the rise and rise of numbers in education had marked a significant change because it had closed down discursive spaces and teacher agency through the use of tightly controlled accountability mechanisms. Teacher dissent was also immobilised through positivist constructions of numbers as inherently objective; allowing contestation to be characterised as unproductive and anti-improvement.

As well as tracing the operation of power in education, this thesis records teachers' voices and the disjuncture between the situated actualities of teachers and the objectivising policies they work under. It records their frustrations, disappointment, worries, hopes and uncertainties about the future. Teaching is, fundamentally, a moral enterprise. For teachers, the reorganisation of their work around performative pressures to improve was creating a "self-defeating, impoverished view of learning" (Ball, 1999, p. 196) that was in contrast to the stated human capital goals of producing critical and creative thinkers for a global economy.

One of the benefits of institutional ethnographic research is that it provides a space for challenging positivist and objectivising ways of knowing. By beginning from teachers' everyday lives, the research has attempted to provide a space to hear from those who live and work within a quantified education system. While the regime of truth that advocates for quantification purports to ensure objectivity and impersonality, it is my hope that this research will contribute to our understanding that numbers are not only socially constructed and filled with meaning, but are also

linked to the operation of power and the ideologically-driven organisation of modern education systems.

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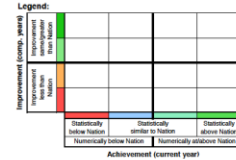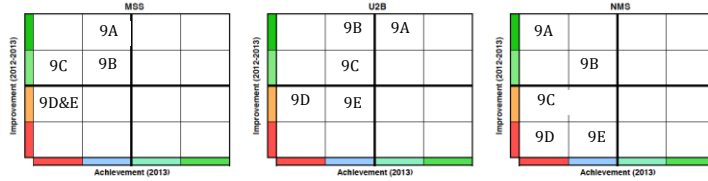
Appendices

Appendix A

Excerpt (2 pages) from a de-identified School Performance Profile

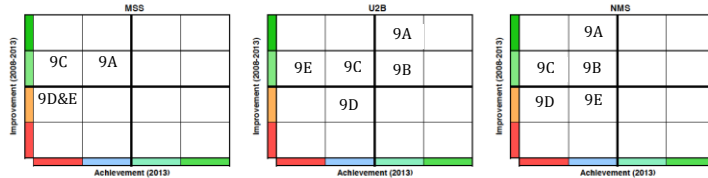Achievement & Improvement Measures: Literacy and Numeracy

Appendix B

Department of Education and Training Performance and Development Cascade

Performance and development in the Department of Education and Training (DET) - Schools
This diagram demonstrates the cascade of performance and development in DET and the alignment of strategic drivers that influence performance and development for school based employees.

Strategic drivers
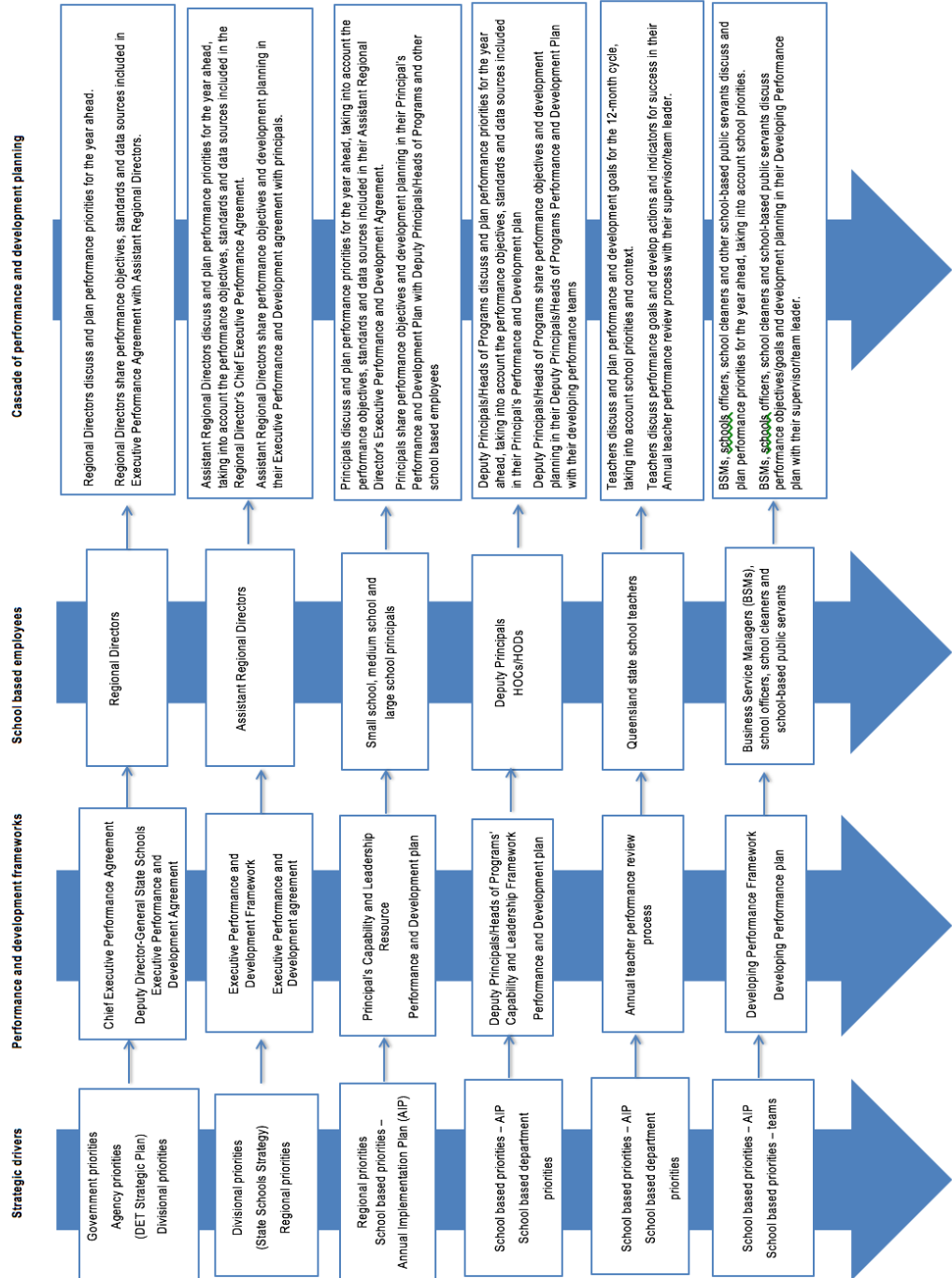
- Government priorities
  Agency priorities
  (DET Strategic Plan)
  Divisional priorities

- Divisional priorities
  (State Schools Strategy)
  Regional priorities

- Regional priorities
  School based priorities –
  Annual Implementation Plan (AIP)

- School based priorities – AIP
  School based department priorities

- School based priorities – AIP
  School based department priorities

- School based priorities – AIP
  School based priorities – teams

Performance and development frameworks

- Chief Executive Performance Agreement
  Deputy Director-General State Schools Executive Performance and Development Agreement

- Executive Performance and Development Framework
  Executive Performance and Development agreement

- Principal's Capability and Leadership Resource
  Performance and Development plan

- Deputy Principals/Heads of Programs' Capability and Leadership Framework
  Performance and Development plan

- Annual teacher performance review process

- Developing Performance Framework
  Developing Performance plan

School based employees

- Regional Directors
- Assistant Regional Directors
- Small school, medium school and large school principals
- Deputy Principals HOCs/HODs
- Queensland state school teachers
- Business Service Managers (BSMs), school officers, school cleaners and school-based public servants

Cascade of performance and development planning

- Regional Directors discuss and plan performance priorities for the year ahead.
  Regional Directors share performance objectives, standards and data sources included in Executive Performance Agreement with Assistant Regional Directors.

- Assistant Regional Directors discuss and plan performance priorities for the year ahead, taking into account the performance objectives, standards and data sources included in the Regional Director's Chief Executive Performance Agreement.
  Assistant Regional Directors share performance objectives and development planning in their Executive Performance and Development agreement with principals.

- Principals discuss and plan performance priorities for the year ahead, taking into account the performance objectives, standards and data sources included in their Assistant Regional Director's Executive Performance and Development Agreement.
  Principals share performance objectives and development planning in their Principal's Performance and Development Plan with Deputy Principals/Heads of Programs and other school based employees

- Deputy Principals/Heads of Programs discuss and plan performance priorities for the year ahead, taking into account the performance objectives, standards and data sources included in their Principal's Performance and Development plan.
  Deputy Principals/Heads of Programs share performance objectives and development planning in their Deputy Principals/Heads of Programs Performance and Development Plan with their developing performance teams

- Teachers discuss and plan performance and development goals for the 12-month cycle, taking into account school priorities and context.
  Teachers discuss performance goals and develop actions and indicators for success in their Annual teacher performance review process with their supervisor/team leader.

- BSMs, schools officers, school cleaners and other school-based public servants discuss and plan performance priorities for the year ahead, taking into account school priorities.
  BSMs, schools officers, school cleaners and school-based public servants discuss performance objectives/goals and development planning in their Developing Performance plan with their supervisor/team leader.

(Department of Education, 2014c)

Appendix C

Screen shots of NAPLAN data reports on OneSchool

(Retrieved from https://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&
source=web&cd=1&cad=rja&uact=8&ved=0CCAQFjAAahUKEwiwtuHAoLTIAhV
H26YKHaAADDc&url=https%3A%2F%2Fclassroomconnections.eq.edu.au%2Ftopi
cs%2FDocuments%2F2013%2Fissue-6%2Fnaplan)

Appendix D

Individual Prose Inventory recording instructions and running record example

Running Record Example

Name: John Smith **Date:** 22-4-2001 **Age:** 9yrs 4mths

Title: Rats **Running words:** 248 **Reading Age:** 10-11

We had rats in our attic. They scampered over the rafters, making
little scratching noises. They gnawed at things, making little
scraping noises. And they leapt about, making scuttling, thumping
noises.

I didn't mind the rats, but mum hated them.

"Derek you must do something about those rats," she said to Dad.

"You really must." "I will, dear I will," Dad said. He shuddered a
little, and continued reading his paper and eating his toast. Mum
sighed. She knew Dad. "Get some traps Mum," I said. "I'll set

them in the attic for you." I thought of creeping across the attic,
a torch in one hand and a trap in the other. It would be scary.

97% — Instructional Level

But it would be fun. Mum shook her head. "I'm not having any of

you kids up there until they're gone," she said. "What if one bit
you?" "They wouldn't bite me," I said. "No!" Mum's finger waved

my way. "You stay down from there! And tell Jeff and Sarah to

94%

stay down too. Understand?" I sighed. "Yes Mum," I said. We
were all silent. Dad frowned and concentrated on his paper. There

was a patter-patter across the attic, right above us.

"That does it!" said Mum. "I'm calling a pest controller."

And she went to the phone. Early in the evening, a strange man

arrived at the door. He had wild black hair and bushy beard. His

eyes bulged, and two of his teeth were missing.

	Analysis of uncorrected reading miscues. Circle cues used during miscue		
1.	M	V	S
2.	M	V	S
3.	M	V	S
4.	M	V	S
5.	M	V	S
6.	M	V	S
7.	M	V	S
8.	M	V	S
9.	M	V	S
10.	M	V	S
11.	M	V	S
12.	M	V	S
13.	M	V	S
14.	M	V	S
15.	M	V	S
16.	M	V	S
17.	M	V	S
18.	M	V	S
19.	M	V	S
20.	M	V	S

Analysis of self correction. Circle cues used during miscue and self correction

	M	V	S
1.	M	V	S
2.	M	V	S
3.	M	V	S
4.	M	V	S
5.	M	V	S
6.	M	V	S
7.	M	V	S
8.	M	V	S
9.	M	V	S
10.	M	V	S

		Comments about reading behaviour:
Accuracy Pass 97%	95.2%	Use of cues: Meaning = 5/12 (41%) Visual = 10/12 (85%) Syntax = 9/12 (75%) Self Correction Rate 1:4 Relying heavily on visual cues to decode unfamiliar words - poor recognition of word endings. Some awareness of text not making sense (S/c rate). Needs to be encouraged to monitor own reading - Does that make sense? Does that sound right?
Retelling Pass 50%	44%	Retelling superficial with poor sequence. Practice with small chunks of text. Develop inferential comprehension in small group discussion.
Comprehension Pass 75%	80%	Recommended Instructional Reading Age: 10-11

RECORDING MISCUES

Marking the prose passage

While the student reads the passage out loud, the person administering the test records any
deviations that are made from the text.

Suggested conventions for recording

1. **Substitution** Write the substitution above the text. e.g. *seem / some* (substitution text)

2. **Omission** Put a dash above the omitted word e.g. *— he went for some lunch*

3. **Insertion** Indicate where the insertion occurs using a caret mark.
   Write the insertion above the caret mark. e.g. *and run ∧ jump and hop*

If these miscues are uncorrected by the student, then they are included in the
miscue analysis to calculate the accuracy rate.

Accuracy rate (%) = nos of words in the passage - nos of uncorrected miscues X 100
                              nos of words in the passage

$$= \frac{218 - 9}{218} \times 100 = 96\%$$

Record all other reading behaviours as this will give you additional information
about the strategies the student is using. These are NOT counted as miscues and
are NOT part of the accuracy calculation.

1. **Repetition** Mark above the word with **R** for repetition of a word.
   Mark with an arrow to show a phrase, or a number of words have been reread.
   This indicates they are monitoring their reading and are rereading to check their
   initial reading (a good sign).

2. **Pause** Mark with //

3. **Self Corrections** Write SC e.g. *next SC / right* (substitution then self corrected text)
   Here the student miscues but then corrects the miscue without being prompted.
   Once again, this is a positive sign because it indicates that monitoring for meaning and
   syntax is taking place.
   Self corrections are analysed separately from uncorrected miscues.

(http://www.handyres.com/c/183455/1/ipi-online---using-informal-prose-
inventories.html)

Appendix E

Words Their Way Primary Spelling Inventory Feature Guide

Student's Name ___   Teacher ___   Grade ___   Date ___

Words Spelled Correctly: ___ /26   Feature Points: ___ /56   Total: ___ /82   Spelling Stage: ___

Words Their Way Primary Spelling Inventory Feature Guide

SPELLING STAGES →	EMERGENT LATE		LETTER NAME–ALPHABETIC			WITHIN WORD PATTERN		SYLLABLES AND AFFIXES EARLY		
	Consonants		EARLY / MIDDLE	LATE	LATE	EARLY / MIDDLE	LATE			
Features →	Initial	Final	Short Vowels	Digraphs	Blends	Long Vowel Patterns	Other Vowels	Inflected Endings	Feature Points	Words Spelled Correctly
1. fan	f	n	a							
2. pet	p	t	e							
3. dig	d	g	i							
4. rob	r	b	o							
5. hope	h	p				o-e				
6. wait	w	t				ai				
7. gum	g	m	u							
8. sled			e		sl					
9. stick			i		st					
10. shine				sh		i-e				
11. dream					dr	ea				
12. blade					bl	a-e				
13. coach				-ch		oa				
14. fright					fr	igh				
15. chewed				ch			ew	-ed		
16. crawl					cr		aw			
17. wishes				-sh				-es		
18. thorn				th			or			
19. shouted				sh			ou	-ed		
20. spoil							oi			
21. growl							ow			
22. third				th			ir			
23. camped								-ed		
24. tries					tr			-ies		
25. clapping								-pping		
26. riding								-ding		
Totals	/7	/7	/7	/7	/7	/7	/7	/7	/56	/26

(Bear et al., 2008, p. 268)