Small data: Working with qualitative information in the literacy classroom

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ABSTRACT

This paper describes the current emphasis on collecting and using quantitative data that encourages the ‘quantification of everything’ (Mayer-Schönberger & Cukier, 2013, p. 78). The author argues that qualitative data provides more complex and nuanced understandings of how young people engage with literacy teaching and learning opportunities in classrooms. Some useful examples of methods that teachers can use to collect and analyse qualitative data in their literacy classrooms are provided.

Introduction

There has been a rapid growth in interest and enthusiasm for ‘big data’ in educational contexts, both internationally and in Australia. Use of large scale sets of data to inform the planning of literacy policies and programs is underway in the USA and this has implications for literacy teachers in Australian schools. As well, there is an increasing responsibility for literacy classroom teachers to collect and interpret quantitative data, ranging from the regular administration of reading comprehension assessment tests, to the interpretation of class and student NAPLAN (National Assessment Program – Literacy and Numeracy) results. These two emphases have tended to push into the background the vital importance of qualitative data that provide more in-depth and individualised understandings of how young people engage with literacy teaching and learning opportunities in classrooms.

In this paper I provide an overview of the use of ‘big data’ in the USA to shed light on the possible future uses in Australian contexts. I will then describe some of the current approaches to the use of quantitative data in classroom contexts and provide a critique of the overemphasis on the ‘quantification of everything’ (Mayer-Schönberger & Cukier, 2013, p. 78). I will argue that qualitative data provides more complex and nuanced understandings of how young people engage with literacy teaching and learning opportunities in classrooms. I will provide some useful examples of methods that teachers can use to collect and analyse qualitative data in their literacy classrooms.

Overview of the use of ‘big data’ in the USA

The use of ‘big data’ has been growing exponentially globally as more and more personal information is stored in databases. The term was first used in science contexts and has many different definitions. It has come to mean the use of large sets of data that can be analysed to produce or ‘apply math to huge quantities of data to infer probabilities’ (Mayer-Schönberger & Cukier, 2013, p. 12).

In educational contexts, especially in the USA, there is a growth in attention to the possibilities provided through collections of these large data sets about students. These collections are made possible by the growth of cloud storage spaces used by education departments and systems. Data collected at the student, classroom and school level are sent to the state or federal level department or organisation, and these data can then be analysed to tailor online learning programs, track achievement and attendance levels, or as one enthusiast suggests, ‘using a data-driven approach can help us teach
more effectively. At the same time, technology that leverages data can help students with day-to-day learning and staying in school’ (Feinleib, 2014, p. 174).

In the USA, examples of data collection methods include the use of mobile applications that can collect information down to individual keystrokes. Teach to One is one company that uses data collected through software to develop personalised quizzes and lessons. It claims that ‘Teach to One students are assessed daily to determine current skill levels, and an algorithm employs these test results to target content delivery for the following day’ (Ready, 2014). Renaissance Learning (2015) boasts that their ‘database houses reading records for more than 10,700,000 U.S. students at more than 36,000 schools’.

These and other companies are using the term ‘learning analytics’ to explain their applications of ‘big data’ concepts to educational contexts. A research paper from the University of Bristol explains the concept:

‘Learning analytics’ has been defined as: The measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs. Learning analytics interrogates learner-based data interaction (using techniques such as predictive modelling, user profiling, adaptive learning, and social network analysis) to inform or prompt actions or decisions based on the results. (Broadfoot, Timmis, Payton, Oldfield & Sutherland, 2012, p. 2)

Some of the inherent problems associated with privacy legislation and data security have already been raised in the USA where ‘education-data companies are hiring chief privacy officers, testifying before state legislatures and reshaping their messages to emphasise their data security. States rein in access to student data or allow parents to opt out of data collection’ (Fleisher, 2014). One of the more controversial initiatives was inBloom Inc., a company that wanted to link education-tech companies with school districts ‘serving as a type of middleman for student data. Its system gives schools the option of uploading hundreds of characteristics about students, including disabilities such as autism or vision problems’ (Fleisher, 2014).

The implications for classroom teaching if these approaches are introduced into Australian schools are many. Increasingly, the teacher’s role in identifying and diagnosing learning problems would be removed, and even in the case of programs such as those promoted by Teach to One, the role of teaching students how to overcome these problems would be taken by the software delivered on either a computer or tablet or even smartphone. The focus for responsibility for assessing and teaching would shift outside of the classroom, away from the generalist classroom teacher. Indeed, this shift is already apparent in the collection of quantitative data in Australian classrooms that is then used in state and federal government reports.

Current approaches to the use of quantitative data in classroom contexts

While the use of large sets of data is not yet as common in Australian schools as it is in the USA, there has been a rapid increase in the amount of quantitative data collected in classrooms over the last 15 years. The introduction of NAPLAN and the development of the MySchool website by the federal government have necessarily required a greater focus on the collection of data at the school and classroom level. As well, each state in Australia has its own systems and methods of data collection in education – for example in, Queensland the Queensland School Opinion Survey is:

a suite of surveys on opinions on the school, student learning and student well-being from a parent/caregiver in all families and a sample of students from each state school. Opinions on the school as a workplace are sought from all state school staff and principals. Additional questions are included for teaching staff on their confidence to teach and improve student outcomes, while principals are also asked on their confidence to lead the school, including improvements in student outcomes. (Department of Education, Training and Employment, Queensland, 2005–2015)
Classroom teachers are asked to distribute these surveys and participate in discussions about the results, as well as administer and interpret the results of NAPLAN tests. Many schools have adopted school-wide assessment tools such as:

- TORCH (Tests of Reading Comprehension; see Australian Council for Educational Research (ACER), 2005–2010);
- CARS and STARS (Comprehensive Assessment of Reading Strategies, and Strategies To Achieve Reading Success; see Hawker Brownlow Education, 2012);
- PAT-R (Progressive Achievement Tests in Reading; see ACER, 2012).

In many cases it is the classroom teachers’ responsibility to administer these tests, and then analyse and interpret the data provided by the results.

Economists such as Pugh and Foster (2014) are especially interested in ‘third party’ access to ‘big data’ collected in Australia through the MySchool website. They cite the UK’s approach to their National Pupil Database that includes ‘test and exam results, prior attainment and progression at different key stages and data on gender, ethnicity, first language, eligibility for free school meals, special educational needs, attendance and exclusions’ (p. 260). Pugh and Foster suggest there are ‘encouraging signals’ (p. 262) that both federal and state level departments are increasing access for academics and other researchers to ‘student-level’ data for Australia.

Quantification of everything
The first part of this paper has described a context where there is much enthusiasm and great promises for the use of large sets of data to help improve teaching and learning. The message from governments, private enterprises and researchers appears to be that these sets of quantitative data are the way of the future. They claim that we will be able to track a student’s attendance, record and correlate that with performance on standardised tests, while at the same time factoring in language background and the schooling history of the parents. Teachers will be able to draw up records on each student to show, for example, that on 27 May one student completed 8/10 spelling words correctly, while on 2 June the student only completed 5/10 correctly. The student will be directed to complete a series of exercises in an online spelling program, where every day for 15 minutes the student sits in front of a computer screen and identifies words spelt correctly or incorrectly from a range of multiple choice items. The student is quiet; headphones play audio directions, even pronunciation assistance; whistles and dancing bears perform in response to a correct guess.

Both these current emphases – the importance of ‘big data’ and the value of quantitative results – shift our thinking about the possible measurements of student performance. Consider the difference between using numbers to describe student performance (15/20 for a spelling test) and words (frequent use of appropriate sentence structures for this text type). While both provide the reader with information about student learning, the number appears to carry with it an assumption about ranking. It is so commonplace today to use numbers in this way that it could be assumed that we can quantify anything. Mayer-Schönberger and Cukier (2013) explain that ‘to datafy a phenomenon is to put it in a quantified format so it can be tabulated and analysed’ (p. 78). The quantification of performance allows tabulation; tabulation allows ranking; rankings assume categories of best and worst. Hierarchical thinking is taken for granted; students are assigned numbers to identify their level of performance in relation to others (in their class, other classes, other states, even other nations). For example, media releases from government ministers include statements such as: ‘Queensland now ranks fourth in the proportion of students achieving the national standard on all strands in Years 3 and 5 – with the exception of writing’ (Langbroek, 2014).

Media reports focusing on education’s perceived failures commonly use such rankings. For example:
Australian teenagers’ reading and maths skills have fallen so far in a decade that nearly half lack basic maths skills and a third are practically illiterate. The dumbing down of a generation of Australian teenagers is exposed in the latest global report card on 15-year-olds’ academic performance. (news.com.au, 2013)

It was many many years ago that Charles Dickens delighted his audience with a critical and satirical view of the quantification of everything, personified in Thomas Gradgrind in *Hard times* (Dickens, 1961) who was a man ‘with a rule and a pair of scales, and the multiplication table always in his pocket, sir, ready to weigh and measure any parcel of human nature, and tell you exactly what it comes to’ (p. 12). In Chapter 2 of *Hard times* we are introduced to ‘Girl number twenty’:

‘Girl number twenty unable to define a horse!’ said Mr. Gradgrind, for the general behoof of all the little pitchers. ‘Girl number twenty possessed of no facts, in reference to one of the commonest of animals!’ (pp. 13–14)

It appears at times that Gradgrind would find the classrooms of the 21st century very familiar, as the push to measure every ‘parcel of human nature’ becomes so easily accommodated into our schooling systems.

Importantly, this rethinking about measurement and performance tends to push aside the classroom teacher’s expertise, knowledge and understanding of qualitative data. Indeed, the impetus for this paper was working with teachers who appeared to belittle this knowledge they had, who brushed aside their existing understanding and skills with qualitative data in their eagerness to learn how to interpret the graphs and tabulations provided in NAPLAN reports.

**Importance of qualitative data**

Qualitative data describes, but does not measure, observes what is there (often called naturalistic observations), and can be useful to help us explain different aspects of occurrences. Here is an example of the differences between a quantitative and qualitative analysis of data. In one project that I worked on (van Krayenoord, Gillies, Honan, Moni, Western & Brereton, 2011), we designed and distributed a survey to parents and the wider community surrounding participating schools. This survey was designed to investigate community perceptions about the value of reading. Figure 1 shows a graph that represents the responses given to one question in the survey that was related to the teaching of reading.

There are some points about community attitudes to the teaching of reading that we can draw from this graph.

- Nearly all items have high level of agreement;
- The message about parent involvement seems to have worked;
- Level of disagreement is strongest around the item about rich children finding it easier to read;
- There is a strong agreement with the statement about individuals learning at different rates;
- There is a large number of ‘grey’ responses that neither agree nor disagree with the statement about teaching using traditional methods – but then there are quite strong opinions expressed about the teaching of grammar and the use of literature – which are the specifics of a so called traditional approach.

Yet there are a number of unanswered questions about these responses. For example, there is strong agreement with the statement about individuals learning at different rates. Does this reflect understanding about the different theories about the teaching of reading, or are the respondents sending a message to schools and teachers? (Don’t try to put everyone into the same box, or into the same box of levelled readers).
There appears to be some sense that the respondents have embraced the messages that continually appear on the front pages of our newspapers that ‘much more must be done’ which appears to contradict the responses to other statements. And what are the reasons for the level of disagreement being strongest around the item about rich children finding it easier to read? Because the community thinks all kids should have the same opportunities? Because the community is reflecting the egalitarian myth of ‘all Australians are equal’?

None of these questions can be answered through an analysis of the graph or of the data that lie behind the graph. The only way of exploring the reasons for survey responses is to ask the respondents further questions, through interviews or focus group discussions. These techniques for collecting data are explored in the next section of this paper.

Collecting qualitative data
Most classroom teachers will collect both quantitative and qualitative data about their students’ learning and their own teaching practices. It is important to think about the problem or issue that is being investigated first, and then make decisions about the type of data that would provide the most useful information about that problem. Here are some examples of questions that teachers might be interested in investigating and that would be best explored through collection of qualitative data. Note the framing of these questions as open-ended and requiring exploration rather than a positive or negative response only.

- Why do the boys in Grade 3 complain about reading lessons?
- How is reading comprehension taught in this class, school, district, state?
- How are digital texts used in literacy classrooms?
- Why is there a gendered difference in NAPLAN spelling results in Year 5 classrooms?
- How does an understanding of the reading process impact on student performance on standardised reading comprehension tests?

While standardised tests and surveys can provide useful data about student learning, examining
the reasons behind results and providing more nuanced accounts of the knowledge students have about particular aspects of literacy are more likely to be completed using qualitative instruments. For example, recording the interactions and behaviours of students with texts, as well as their knowledge of how texts work, can be completed through observation and documentation techniques, such as running records, anecdotal records, checklists, and portfolios. Many of these techniques are practised by classroom teachers as part of their classroom assessment routines. However, systematic recording and analysis of these data is sometimes ignored.

Collecting data about teachers’ pedagogical practices can be useful for a variety of purposes:

- demonstrating and modelling effective or new strategies;
- promotion or appraisal;
- demonstrating impact of professional learning on practice;
- reflecting on own pedagogy;
- identifying and answering research questions.

Tools that can be used to collect data about pedagogical practices include:

- classroom observation tools;
- interviews – pre and post observation;
- video and audio recordings;
- ethnographic observations – rich and thick, using templates;
- stimulated recall and reflection;
- reflective journals.

In some cases, classroom teachers find it useful to use an action research cycle to plan their use of data tools. As noted in the example of an action research cycle provided below, data collection occurs at various stages, from the first step of identifying the problem to looking at what happened and using results to update and modify the plan.

![Action research cycle](image)

Figure 2. Action research cycle (from Honan, Evans, Paraide, Reta & Muspratt, 2012)

**Analysing qualitative data**

As mentioned earlier, classroom teachers regularly collect the type of data I have referred to above. However, they are sometimes less likely to spend time on systematic organisation or analysis of these data. This section of the paper provides some relatively simple techniques for interpreting data results using qualitative methods.
The first point to be made is that the use of the terms ‘qualitative and quantitative data’ can be misleading. Data that are often analysed using quantitative techniques such as surveys and tests can also be analysed qualitatively. Documentary data can provide useful insights into the practices of teachers and schools, such as timetables, lesson plans, units of work, newsletters and letters to parents, school policy documents, and texts used in classroom literacy lessons. Lesson observations, interviews, recorded conversations and interactions between students and teachers are also useful.

In deciding how and what to analyse, it is useful to begin again with your problem or the issue you want to investigate. The first step in collecting data is to ask: What data are available? This can be followed by identifying sources of other data to be collected, and then thinking and planning for new instruments that may need to be produced.

For example, if a classroom teacher wanted to examine the question, ‘Why do the boys in Year 3 complain about reading lessons?’, then she/he could begin with collecting the available data, including test results, anecdotal records, the teachers’ own reflective journal where there is evidence of these complaints and/or evidence of the effect of these complaints on student performance, classroom environment and so on. The teacher might then hold an informal focus group discussion in the classroom where the students are encouraged to express their opinions about reading lessons, and she/he could take notes or even record this discussion. The teacher could then decide that a parental perspective might be useful and write a letter home with two to three questions for parents to answer. The teacher might ask a teaching partner or colleague to observe reading lessons using a simple observation schedule that tracked boys’ engagement and interactions.

Once all data are collected, it is important to use some organisational techniques to begin the analysis and interpretation stages. Sorting, classifying and categorising data helps in the interpretation. At this stage, some data are discarded, some bits ranked as more important than other bits, some message or themes are identified and used to develop categories. Patterns begin to emerge, the most useful often being those identified across more than one data set. Referring back to the earlier example, it might be observed that parents mention take-home readers frequently; that in anecdotal records disruptive behaviour is noted at the end of reading lessons when take-home readers are being organised, and that in the focus group discussion the teacher noted some students complaining about the take-home readers being ‘boring’. This pattern might then lead the teacher to conduct some analysis of the take-home reader collection, considering the age, suitability, gendered appeal, readability and so on.

In literacy classrooms, sometimes the important questions to ask about the data collected are what could be perceived as the simplest. For example, ‘What are the stories about literacy being told in these data?’ ‘What counts as literacy in these data?’

Importantly, it is not a search for the ‘right’ or ‘correct’ answer that drives most qualitative data analysis. Rather, analysis and interpretation of data can provide some possible reasons. It is always interesting to compare one person’s interpretation with others, making collaborative teacher projects a worthwhile strategy. Rather than asking ‘What do these data mean?’, it is more useful to ask: ‘What is a possible story that could be told from these data? What do I think the data mean? What messages do I hear?’

For example, in one interview, a teacher told me about her first interactions with a new English curriculum:
Ann: I came to the first key teaching thing. They were talking about Year 2 Net, and blah blah blah, and this is in this book, and blah blah blah, this is here, and everyone should have one, and every teacher should have one. And I went back and said ‘Where are our books?’ You know, I’ve just been told that every teacher should have this set of books, and they were all wrapped in plastic in shelves in piles. This was last year, middle of last year, and I said ‘Right I’ll take my books’ and I took them, and I unwrapped them. And I took two sets because I was with someone else. And I took them in and ‘We’re meant to have these’, so we unwrapped them, went, flicked through them, stuck them on the shelf. ‘Right, we’ve got ours’. 

My interpretation of this interview excerpt related to the lines that I have bolded. It appeared to me that Ann’s initial interest in the texts grew from her knowledge that something was due to her; she had a right to copies of the texts. The access to the texts was more important than the text itself. Once access was gained, she had no intention of reading them from cover to cover, or of gaining a secure working knowledge (which was the intention of the curriculum writers). This interpretation helped me in my discussion of the relationships between teachers, policy writers, curriculum advisers and the English curriculum (see Honan 2001).

Someone else, another researcher with a different question or another teacher, or even Ann herself, might think something else is going on in this excerpt; that there is a different message to hear; something that I have missed or ignored. Another example comes from an analysis of a curriculum document (see Rowan & Honan, 2005), the Early Years Literacy Program (EYLP) in Victoria, which provided teachers with advice about the structure of their program. This is reproduced in Figure 3.

My interpretation of the messages to teachers embedded in this program included the following points:

- Literacy is best taught in uninterrupted two-hour blocks of time;
- Reading and writing are two distinct and separate components of literacy that should be taught separately;
- Speaking and listening learning occurs as part of reading and writing while at the same time separated from the other modes;
- The organisation of the class in the block is whole class-small group-whole class with emphasis on individual success and interactivity between groups of children and the teacher.

In workshops and presentations, others have pointed out that the positioning of the words ‘teaching speakers and listeners’ on the side of the figure with no elaboration sends a message that speaking and listening skills are not important and can be ignored.

Finally, another example of qualitative analysis (also drawn from Rowan & Honan, 2005) is of an amalgam classroom snapshot. In this snapshot, I drew on multiple classroom observations of many different classrooms using the ‘Literacy Block’ approach to teaching literacy in the early years. This snapshot was developed to provide an illustration of the perceived outcomes of the curriculum program outlined above. In reading this snapshot, I invite you to consider what counts as reading and writing in this classroom.

The classroom wall clock reads 9.10am. There are about 22 small children sitting cross legged on a large square of carpet at one end of the classroom. Their posture is largely determined by their distance from the teacher, who sits on an upright chair in front of the group. So those directly under her gaze sit straight backed, hands neatly folded in their laps. As the distance grows, so the posture deteriorates until you find, hidden from the teacher’s gaze by the bodies of the rest of the class, two small boys lying on their backs. One is quietly humming to himself and rocking his lower body and legs from side to side, almost as an adult does in a physiotherapy exercise. The other boy is wriggling his whole body in a snakelike attempt to move closer to his neighbour.
Schools provide an uninterrupted two-hour literacy block, consisting of one hour of reading and one hour of writing. The teaching of Speaking and Listening is overlaid on the teaching approaches identified for Reading and Writing within the two-hour literacy block.

### The Structured Classroom Program

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<thead>
<tr>
<th>TEACHING READERS</th>
<th>TEACHING SPEAKERS AND LISTENERS</th>
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<tbody>
<tr>
<td>Whole class focus on reading</td>
<td>Learning Centres P-2</td>
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<tr>
<td>Reading to students, shared reading</td>
<td>Learning Tasks 3-4</td>
</tr>
<tr>
<td>Small group focus on reading</td>
<td>Book Boxes</td>
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<tr>
<td><strong>Reading to students</strong></td>
<td>- easy familiar and unfamiliar texts</td>
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<td><strong>Language experience</strong></td>
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<td><strong>Shared reading</strong></td>
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<td><strong>Guided reading</strong></td>
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<td><strong>Guided reading - Reciprocal teaching</strong></td>
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Whole class reading share time
Reflecting on and celebrating students learning

### TEACHING WRITERS

<table>
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<tr>
<th>Whole class focus on writing</th>
<th>Modelled writing</th>
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<tbody>
<tr>
<td>Shared writing</td>
<td>Teacher conducting roving conferences</td>
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<tr>
<td>Small group focus on writing</td>
<td>Students working on various aspects of the writing process: planning composing recording revising publishing</td>
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<tr>
<td><strong>Shared Writing</strong></td>
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<td><strong>Language experience</strong></td>
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<td><strong>Interactive writing</strong></td>
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<td><strong>Guided writing</strong></td>
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Whole class writing share time
Reflecting on, sharing and celebrating students’ writing

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Figure 3. Excerpt from the Early Years Literacy Program (see Rowan & Honan, 2005, p. 204)

The teacher’s chair is located close to a blackboard that stretches the width of the classroom. On one part of the board is a brightly coloured chart, with the heading Task Board, and a table of five columns and four rows. The days of the week form the headings for the columns. At the beginning of each row is a pictograph, a symbolised representation of one of the teaching strategies from the EYLP. For example, guided reading is represented by an image of four heads and a book. There are four small cards attached to the chart with velcro, and each card holds the image of an Australian animal, platypus, wombat, kangaroo, echidna.

On the other side of the teacher’s chair is an easel, on which are pinned some large pieces of blank paper. Leaning against this paper is a large ‘big book’. The teacher is reading the big book to the class. The class all seem familiar with the text, with some children reading loudly along with her. Two children talk loudly to each other about what is coming up, describing in some detail to each other the contents of the following pages. As with the posture of the children, their attention to the book reading seems to be directly related to their proximity to the teacher. The teacher’s gaze seems to be divided between the pages of the book she is reading, and those children who sit close to her. There is an invisible circle of literary appreciation drawn around the teacher and those eight or so children who appear to be enjoying the reading.

The teacher finishes the reading of the big book and draws the children’s attention to the Task Board.
She elicits group and individual responses to her questions from the class. To the two wriggling boys at the back, she asks: ‘What group are you in Troy and Toby?’ The boys sit up and call back, ‘Wombats miss!!!’ And what will the Wombats be doing this morning? After a few seconds of silence, she asks, ‘Can one of the Kangaroos help the Wombats – what will the Wombats be doing this morning, Sarah?’

Sarah, one of the girls sitting directly at the teacher’s feet replies, ‘Reading with you miss.’ ‘Good girl, Sarah. And what will the Kangaroos be doing?’ There is a choral response as many of the class shout, ‘Sheets!!!’ ‘That’s right, Kangaroos will be working on their worksheets at their desks.’ The other two groups of children are reminded of their activities (reading from the Book Boxes, and reading with a parent helper, who is sitting quietly at the back of the classroom, close to the door). The teacher reminds the class of the rules for the morning: ‘What happens when I’m working with the Wombats, girls and boys? – what do you have to remember – Echidnas?’ The Echidnas’ responses are varied: ‘Don’t talk to you’, ‘Stay away!’, ‘Sit in our seats ’til we’ve finished.’ ‘That’s right, good girls, when I’m working with the Wombats I don’t want to be interrupted, so you read your book quietly, and if you finish reading your book, what do you do?’ ‘Read it again!’, the Echidnas reply in unison.

The signal to move is almost invisible to the outsider. The teacher merely says, ‘Right, off we go,’ and many of the children stand immediately and walk purposefully around the room. One girl goes to a corner and pulls out a large plastic crate filled with ‘levelled readers’. Another girl goes to the teacher’s desk and collects a cardboard folder with a Kangaroo drawn on the cover. Five children cluster around the parent helper, who appears not to notice them, as she is bent over her own daughter who is whispering in her ear. The Wombat group, four boys and two girls remain on the carpet. Some children sit at desks and pull out pencil cases containing pencils and coloured markers. Within a few minutes all children seem to be ‘on task’, reading quietly or aloud, writing on worksheets, or responding to questions from the teacher. There is a ‘working buzz’ in the room. Gradually though the buzz is subsumed by the sounds of giggles and loud conversations.

The Echidnas have all read their Book Box readers, and have obeyed the instruction to read them again. All five children have now read their texts twice, and now discard the books. They are giggling, telling stories; there is the occasional pinch or tweak of an arm or leg.

The Platypus group with the parent helper are taking turns to read aloud from a reader. They too have finished this ‘round robin’ once, but the parent has begun the reading again. The children who are waiting for their turn do not follow the text, but whisper to each other.

The Wombats are still working with the teacher, but she seems to find it difficult to hold all their attention at once – so when she asks one girl a question about the text they are reading, the other five children appear to be daydreaming.

The Kangaroo group seems to be the quietest, and seems to still all be on task. They have all finished answering the questions on their worksheets, and are quietly and carefully colouring in the illustrations that border the sheets.

Occasionally the teacher looks up from her reading and questioning and glances at the wall clock. At exactly 9.40 am, she stands up and claps her hands in a short rhythmical pattern. The children all fall quiet, some instantly while others are nudged into silence by their neighbours or by a certain look from the teacher.

‘Right, thank you Grade 1s, onto the carpet please’, the teacher commands. While most children scamper and scramble to reach the carpet square, some detour to return books to the crate, and a small group cluster around the teacher, eager to inform her of exciting developments during the 20 minute activity time. She hushes some, listens carefully to a couple, and gives permission for two to go to the toilet. She then resumes her straight backed chair at the front of the class – this again seems to be an invisible signal to the class, many of whom begin to try to catch her attention – hands waving frantically in the air, calling out, ‘Miss, Miss, me please, me!!’ The teacher selects one child, ‘Tanah, your turn I think today.’ The small girl clamber through the group and stands beside the teacher. The teacher asks, ‘What did you do today Tanah?’ Tanah replies looking directly at the teacher. During her reply the teacher gently holds her shoulders in an attempt to direct her gaze towards the class, but Tanah’s body resists the gentle pushes and swivels around again to look at the teacher. Tanah’s reply seems well rehearsed; there are phrases within her reply that the teacher mouths silently along with Tanah.

‘This morning, the Kangaroos wrote a lot of B words. Then we wrote our words in sentences. Then we coloured in our pictures of balls, and baskets and biscuits. Then we packed up our sheets.’ The teacher.

The teacher asks three other children, representing each of the four groups, to come to the front one at a time. They each describe the activity engaged with, each using similar words and phrases. The other children sit on the carpet in much the same positions and postures as they had taken at the beginning of the morning.

The same children sit upright and cross legged close to the teacher and the same two boys lie on their backs on the edge of the carpet square, hidden from the teacher’s gaze by the other children. (Rowan & Honan, 2005, pp. 213–214)
My interpretation of what counts as reading in this classroom snapshot included these points:

- Reading involves being organised into small groups;
- Teachers read to the whole class; children read aloud in small groups;
- Reading is writing words beginning with the same consonant;
- Reading is colouring in pictures of words beginning with the same consonant;
- There is a connection between ability to read, and ability to listen to instructions, recall previous activities, and sit with straight backs and crossed legs (see Kamler, Maclean, Reid & Simpson, 1992);
- Reading is about reading the same text repeatedly until you are completely familiar with the text;
- Reading is about gaining operational skills, or being able to draw on codebreaking resources to make meaning from a text (Freebody & Luke, 2003);
- When we talk about reading, we talk about what we do with texts, rather than our feelings or understandings of the content of the texts.

Of course there are many other interpretations of this classroom scene, and importantly these reflect our own ideas, beliefs and values about the teaching of literacy. One interesting exercise could be for a group of teachers to compare and contrast their views of what is happening in this snapshot.

Conclusion

The push towards collecting large sets of quantitative data seems to be unceasing and unstoppable. However, ‘big data’ and other forms of quantitative data cannot capture the in-depth and complex relationships amongst teachers, students, texts and policies that operate within literacy classrooms.

I have provided here some examples of interpretations and analyses of qualitative data that could be used as models or guides by classroom teachers. Other more structured advice and guidelines can be found in diverse sources, including textbooks used in postgraduate courses that are available in university libraries, online professional development courses, professional association workshops, seminars and conferences. One particular source is that provided in teacher education schools and faculties at universities. Most of us who work in these contexts are interested and enthusiastic about sharing ideas for doing classroom-based research with teachers. Importantly, we are interested in helping teachers gain the research tools required to shape the curriculum to suit their particular situations and contexts. Collecting, analysing and interpreting qualitative data within a classroom context sheds significant and in-depth light on the nature of student learning and performance, a light that cannot be provided solely through the collection of quantitative data or through the analysis of ‘big data’ sets.

References


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