

# The Tail Wagging the Dog? The Effect of National Testing on Teachers' Agency

**Troels Lange and Tamsin Meaney**  
Malmö University

*Australia introduced national testing in literacy and numeracy in 2008 in order to ensure that all children reached basic benchmarks. In January 2010, school results were published online, making these tests high-stakes, especially for schools likely to have poor results. In 2009, a research project was conducted on what supported and hindered teachers in a school in a low socio-economic area to take up mathematics professional development opportunities. This paper explores the impact of national testing on perceptions of teachers' agency, particularly the constraints it imposed on taking up these opportunities.*

## **National Assessment Program – Literacy and Numeracy**

In 2008, as part of a push to gain greater control over the schooling sector, the Australian Federal Government replaced tests done by individual Australian states with the National Assessment Program – Literacy and Numeracy (NAPLAN). NAPLAN was designed to determine whether Australian students had reached minimum standards at Years 3, 5, 7 and 9 (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2011) and thus contributed to the rhetoric about 'raising standards', particular for students from disadvantaged backgrounds (Donnelly, 2009).

In January 2010, the Federal Government opened a website, *My School*, which compared NAPLAN results for individual schools against schools with students from similar socio-economic backgrounds (Jensen, 2010). Hence, these tests became high stakes (Lingard, 2010), with teachers in schools in low socio-economic areas concerned about the impact on their reputations as educators (Lange & Meaney, 2012 forthcoming). In the previous State-based tests, comparisons of school performance had not been possible. *My School* marked a major change in the influence of accountability practices on mathematics teaching in Australia, and was indicative of the increased trend towards the abstraction and quantification of education (Hardy & Boyle, 2011).

However, the use of multiple choice and short answer questions and a focus on achieving minimum standards means that NAPLAN assesses only a limited type of mathematics: recalling factual knowledge, such as the names of 2-dimensional shapes, and completing computations (for examples, see [http://www.naplan.edu.au/tests/naplan\\_2010\\_tests\\_page.html](http://www.naplan.edu.au/tests/naplan_2010_tests_page.html)). This means that

there are no opportunities for “problem-solving, investigation, mathematical modelling, and the communication of mathematical ideas” (Barnes, Clarke, & Stephens, 2000, p. 624) that are valued in Australian curriculum documents.

It is accepted in educational research that assessment, especially high stakes assessment, becomes the de facto curriculum for teachers (Resnick & Resnick, 1992). A feature known as “the assessment tail wagging the curriculum dog” (Barnes et al., 2000, p. 624). In the US, Ellis (2008) reported how the rhetoric around direct-instruction methods improving basic computational test results was connected to beliefs that computation was what children needed. The solving of rich tasks was not seen as important. Yet, there is little research on how the relationship between high stakes assessment and teaching operates in the detail of daily school reality. In this paper, we explore how NAPLAN affected perceptions of teachers’ agency in regard to the teaching of mathematics.

## **Agency**

Agency has become a frequently used term in mathematics education research (see Andersson & Norén, 2012 forthcoming). Yet, there seems no consensus on what it is or how it operates. Researchers such as Boaler and Greeno (2000) and Brown and Redmond (2008) used Pickering’s (1995) ‘dance of agency’, which focuses on the tensions between an individual’s own agency and the agency of the discipline of the subject, such as mathematics. However, when tensions in mathematics teaching and learning are explored, then resistance as a form of agency can become over emphasised (see Wagner, 2007). For Klein (1999) agency is an ability to act in certain ways that conform or resist societal expectations, expressed through discourses that describe, for example, what a typical teacher or learner is:

A form of agency may be realised when teachers recognise the constitutive power of discourse and how teaching interactions position learners in ways that can authorise and empower, or alienate and prevent them from acting in powerful ways. (p. 89)

Common ground between the definitions includes a recognition that agency involves the meaning making and actions of an individual that occurs within a socio-historical context. Nevertheless, these definitions can be reduced to a tension between agency and structure (Biesta & Tedder, 2006). Rather than seeing agency in opposition to structure, we have chosen to use Emirbayer and Mische’s (1998) definition of agency as being embedded within structure:

*the temporally constructed engagement by actors of different structural environments—the temporal relational contexts of action—which, through the interplay of habit, imagination, and judgment, both reproduces and transforms*

*those structures in interactive response to the problems posed by changing historical situations* (p. 970; emphasis original).

The three interrelated elements, habit, imagination and judgment, which emphasise the historical and social nature of agency, metaphorically form a “*chordal triad of agency* within which all three dimensions resonate as separate but not always harmonious tones” (p. 972; emphasis original):

- habit, the iterational element, is “*the selective reactivation by actors of past patterns of thought and action, routinely incorporated in practical activity, thereby giving stability and order to social universes and helping to sustain identities, interactions, and institutions over time*” (p. 971; emphasis original)
- imagination, the projective element, is “*the imaginative generation by actors of possible future trajectories of action, in which received structures of thought and action may be creatively reconfigured in relation to actors’ hopes, fears, and desires for the future*” (p. 971; emphasis original)
- judgment, the practical-evaluative element, is “*the capacity of actors to make practical and normative judgments among alternative possible trajectories of action, in response to the emerging demands, dilemmas, and ambiguities of presently evolving situations*” (p. 971; emphasis original).

Emirbayer and Mische (1998) suggested that all three dimensions are inter-related, but at different moments “it is possible to speak of action that is more (or less) engaged with the past, more (or less) directed toward the future, and more (or less) responsive to the present.” (p. 972). Although acknowledging that habitual actions were also agentic, they saw problematic situations as more likely to make actors reflective, thus leading to the possibility for alternative actions and for situations to be restructured. In our data, the high-stakes nature of NAPLAN became problematic for the teachers in regards to thinking about their own teaching. Consequently, we considered Emirbayer and Mische’s definition of agency to be valuable in better understanding the data.

### **The participants, the school, the project and the research study**

The school was located in a regional centre in New South Wales (NSW), Australia and serviced a low socioeconomic area. It taught children from 5 to 12 years old and had a high Indigenous population as well as children from defence service families resulting in a 60 percent turnover during the year. Poor results in the 2008 NAPLAN test meant that the school received funding for a range of professional development (PD) activities. At the end of 2008, we were invited by the principal to set up small projects that would suggest possibilities for longer term projects in 2010 (see Meaney & Lange, 2010). None of the projects related

directly to the sort of mathematics tested in NAPLAN. One of them was a PD project on increasing writing in mathematics to support students' reflective thinking. This project allowed us to investigate enablers and constraints on teachers' take-up of PD opportunities.

As part of the research, we initially interviewed: 4 teachers, although one later withdrew; some students from each of their classes; one parent; two deputy principals and the principal. Over the four weeks of the professional development, we filmed one lesson from each teacher weekly, audio-recorded the commentary of the teacher and a researcher when looking at each filmed lesson, and audio-recorded the meeting that was held each week and attended by the teachers and researchers. At the end of the project, we interviewed the teachers and the students again. Although we never specifically asked about NAPLAN, it was mentioned by the teachers, the school executive, staff and the parent, especially in the initial interviews but also in the shared meetings. Our project occurred as the results from the second year of NAPLAN were being sent to parents and the *My School* website was being discussed in the media. Therefore, it is not surprising that NAPLAN came into the discussions.

### **NAPLAN and teachers' perceptions of their agency**

The comments in the data about NAPLAN showed that all three dimensions of agency were drawn upon. However, as suggested by Emirbayer & Mische (1998), their interaction was not always harmonious. Although participants could project possible alternative courses of action, only those which involved utilising NAPLAN results seemed to have any likelihood of becoming a reality. In the transcript extracts, all names are pseudonyms.

From the initial interviews, it was clear that participants considered that NAPLAN would affect the teaching at the school. The two deputy principals, interviewed together in August, 2009, suggested that the schools' NAPLAN results would result in mathematics becoming the focus in the following years.

Kylie:           And I suppose next year for infants [five to seven year olds] it will become more oral focused, because that's going to be our focus next year, that and maths. We think we've done literacy and language well now. That's been our focus for a while, but after our NAPLAN, we need to focus on maths now.

Harriet:         I think our NAPLAN result will show what we need to do, but we need to be doing, we need to have a whole school direction.

Using their knowledge of the impact of a literacy focus on teachers developing children's understanding and skills, the deputy principals *imagined* that a focus on mathematics would have similar results because they could *predict* the teachers' actions (Emirbayer & Mische, 1998). Poor NAPLAN results were the catalyst for the shift, as they showed "what we need to do." It provided

the situation that needed to be changed and *their past experiences* offered a *potential solution to transform the situation*. However, it is the deputy principals' agency that is in focus. For the teachers, the schools' response to poor NAPLAN results was another feature of the situation in which they negotiated their agency.

The principal's view about the sort of mathematics that the children at his school needed and the relationship with NAPLAN was more complex but suggested a similar potential resolution.

Tamsin: How do you think maths should be taught?

Paul: I think as educators and I guess particularly as higher education, we need to have people looking at where our society and where our numeracy needs are heading, not to be marching up and down in the one spot, doing the same thing that we did 20 years ago. The important part of numeracy is giving kids the ability to be able to use numeracy to benefit themselves, and then what we need to look at is how best to do that. ... Is there a different sort of logic that we can use as more related to what young people in High School and then subsequent employment might want to use? They're the sort of bigger questions that – I think if we can get higher education looking at alongside the schools situation, that will give us that idea of what we should be teaching in numeracy and some more effective ways. ...

Tamsin: So, what have you done at this school to help teachers teach in that way?

Paul: I mean what we are trying to do, and again in our context, it is not about straight teaching, ... it is as simple as making sure some children have had something to eat, ... I mean the things I dealt with this morning – a good example is food, clothing, a death in the close family, and kids need to be able to talk about those things. Now not all those things are in every family, so what we try to do is understand the children's welfare needs. We have put in place [a number of professional development projects in pedagogy, literacy and mathematics]. The other thing that we have been doing under the School Learning Support Coordinator Programme is to go back and do some significant data analysis of test items. Now we're doing both the NAPLAN and the PAT-Test and both of those have the facility to go back and identify student response and then do error tracking, all that sort of stuff.

Although he recognised the issues that children at his school dealt with, it did not stop the principal from *imagining* what their numeracy needs may be as adults. At the same time, students' responses to the NAPLAN test are seen as useful data to identify what mathematical learning problems they may have.

Juxtaposing these two ideas shows the tension between having to deal with the situation as it is, whilst at the same time *envisaging a different kind of future*. Although the principal could imagine alternative actions, his role required him to deal with the requirements of the present situation. In doing so, he drew on *established habits* of instituting professional development projects in order to direct teachers' attention to what they need to do. Without ongoing opportunities to reflect on alternatives, then *habitual* processes will be reinstated, with NAPLAN results driving the direction that teachers will be asked to address. Ultimately, this may lead to a restriction of his and ultimately the teachers' agency to a mere *manoeuvring between repertoires of habitual actions* when making the possibilities suit the specific situation (Emirbayer & Mische, 1998). Barnes et al. (2000) described how the tradition of NSW teachers was to focus on the high stakes assessments and be less focussed on curriculum outcomes.

The teachers discussed how they felt they were pressured by NAPLAN. Although the youngest year level that NAPLAN tested was Year 3 students, the Year 2 teacher, Sarah, felt that she had internalised the pressure and at times this was in contradiction to what she felt was beneficial to her students:

Sarah: I like kids to get in there, and you know – explore but I guess, I just do it. And then, I'm still very conscious of where that fits with the syllabus and with testing and stuff like that, because you know, I'm just not a fan of NAPLAN. It is our yardstick so it's not much, you know, I can't see that changing, ...

I don't have – “and show me your program” [from the school executive or parents] – I don't have that pressure, as such. But I certainly feel the pressure of the gaps in my kids, and where the syllabus benchmarks are, and my obligation to the year 3 teacher and my pick up off the kinder[garten]-[Year] 1 skills they didn't get, and so, I guess I'm a little bit – but it's probably me that applies that pressure, not – you know – it doesn't seem to be coming external. ... So, yeah, I guess most of the pressure is syllabus based and preparation for NAPLAN – well it's never a forethought. It's more of a back thought, you know. I get on with what I'm doing.

As part of the practical evaluation element, Sarah's agency is expressed through her *decision* to provide her students with opportunities to explore. However, there is an obvious tension if she must also ensure the students have the minimum standards assessed by NAPLAN. Her vision of herself as a teacher is caught in a conflict that can only be resolved when the two aims – allowing children to explore and achieving minimum standards – are achieved together. With limited possibilities to achieve this balance, then it becomes difficult “to act rightly and effectively within particular concrete life circumstances” (Emirbayer & Mische, 1998, p. 999), and agency becomes restricted or almost paralysed.

This tension was seen in much of the discussion between the teachers. The following extract came from the second week of the project, at the end of the hour-long meeting. The teachers discussed how the emphasis on literacy and numeracy affected their teaching, and how assessments such as NAPLAN and Best Start (New South Wales Department of Education and Training, 2011), an assessment of children's literacy and numeracy during the first three years of school, affected their perceptions of young children and their learning:

Kathy: And the other thing I've been thinking about a lot too, lately is that there's such a big push for literacy and maths now, and it's been made like a focal point, I guess, is that what else are we missing that could allow any of our children to be achievers – like are we missing the art side of it? Are we missing the music? Are we missing the performance? And are we missing the drama? And all of the things in our curriculum, which allows children to become more confident in their skills, which then, relates to maths, or which then relates to literacy. And so, they're coming at literacy and maths, and everything else just sort of getting pushed aside. Maybe, I don't know, I just sort of think it's gone a bit all arse up, would be the word I'd use, because you've got to have these other things to give them that.

...

Geoff: And that's the pressure of NAPLAN. ...

Sarah: And we're getting that pressure younger, too. Like, look at us now, we've got kinder[garten] Best Start things that are assessing little people before they've even had time to do anything and –

Kathy: It used to be known as “Kindergarten, learn to play” didn't it?

Sarah: you know, like where's all the playing with blocks?

The opportunity provided by the meetings allowed the teachers to *problematise* their current situation through characterising the past in the work of their joint reflection. As Emirbayer and Mische (1998) stated “the problematization of experience in response to emergent situations thus calls for increasingly reflective and interpretive work on the part of social actors” (p. 994). Although in this discussion they do not offer possible alternative actions, the teachers focus their attention on the impact on their teaching of the system's emphasis of literacy and numeracy, through assessments such as NAPLAN and Best Start. For them, activities such as music, drama, play are squeezed from their teaching and replaced by literacy and numeracy. The situational constraints on their agency to make choices about their actions are clear. Conforming to these constraints requires them to some degree to give up these visions of “good teaching.” Similar comments have been made in other high stakes testing situations. In the United States, teachers stated that they had reduced the amount

of social studies and science that they taught in order to focus on literacy and mathematics (Taylor, Shephard, Kinner, & Rosenthal, 2003).

The teachers were able to envisage alternatives but only those where NAPLAN and other mandated testing were removed from the situation. The following extract comes from a meeting in which Kathy had described how she withdrew small groups and then ascertained what they knew and designed a program to move them forward:

Sarah: I used to argue here when we had all the audits and stuff that, maybe we should actually have the curriculum as a guideline, and just say, for this 3 years, we're not actually going to worry about benchmarks. We're going to go back where we are and just, you know, do all your data, so you can prove what you've done, have starting points, have end points, but actually throw away any preconceived notion of where we should get to, and see what happens over 3 years. ... I don't know, I still think that we would probably find that we'd actually be faster, because we'd go back and check and then we'd just move because that pressure's kind of gone. There's no NAPLAN test, there's no, just see what happens.

Kathy: It's just pulling out what they don't know along the way and just fit all that in and then keep going.

Emirbayer and Mische (1998) suggested that “in proposing new social ends as well as different means for arriving at them, actors draw upon—and sometimes extend, rearrange, and transform—the master frames extant in the broader political culture” (p. 993). These teachers could *envisage* a line of action where their concerns about ‘good teaching’ could be enacted. However, the hierarchical nature of schools embedded within a wider schooling system did not provide teachers with openings for transforming the frames in which they operated. As much as Sarah could *envisage* a reality without NAPLAN, NAPLAN was not going to disappear. As teachers, they had no alternative, but to comply with how the system insisted the curriculum/syllabus should be implemented. Their vision was unlikely to be *judged* as an appropriate alternative and sanctioned by the schooling system. Consequently, their agency was restricted by the structure in which high stakes tests reified the benchmarks that they had to teach towards, regardless of whether their students reached them.

## **Conclusion**

Although the teachers had not yet been completely coerced into teaching to the test, by October 2009, their ability to enact their agency was curtailed. The teachers perceived that the problem that they faced was how to provide ‘good teaching’ which would support their students to learn within their current situation. Sarah and Kathy were vocal about how it was necessary to start their

teaching from where the students were at mathematically, and not where the syllabus indicated that the children should be. Sarah felt that her students needed opportunities to explore, whilst Kathy wanted an opportunity to use drama and art to develop students' confidence, so they would be better able to tackle literacy and numeracy learning. Although they both saw that there were some opportunities within their current situation to implement these ways of teaching, they also identified them as being in conflict with the testing regime which emphasised literacy and numeracy outcomes. In contrast, the school's poor NAPLAN results were seen as a problem by the executive staff. Their solution was to use those results to focus the school on mathematics and to provide professional development on problematic areas as determined by NAPLAN. The responses that were envisaged at the school level were habitual in that they drew on what had worked in regard to improving literacy results.

Rather than feeling that they should change their teaching so that their students would do better on the NAPLAN tests, the teachers imagined ignoring NAPLAN. However, given its strong institutional support, this was unlikely to happen. Without being able to envision alternative courses of action, their agency was restricted and it was likely that teaching to the test would become a stronger feature in the following years.

### **Acknowledgement**

This research was undertaken with Marianne Thurling and her participation and hard work provided a solid basis for the subsequent analysis.

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