

“DOWN IN THE DARK ZONE”: TEACHER IDENTITY AND COMPULSORY STANDARDISED MATHEMATICS ASSESSMENT

Fiona Walls

James Cook University, Australia

In this paper, teachers of Year 5 and Year 7 students at one state primary school in Queensland, Australia, share their thoughts and experiences of the mandatory standardised state Numeracy Tests, noting the tensions, dilemmas and challenges these tests pose for teachers involved in children’s mathematical learning. Using Foucault’s theories of discourse and Lacan’s theories of identity the paper contemplates the ways in which mathematics teachers are inscribed and constituted within the standardised test process.

TEACHERS, MATHEMATICS, ASSESSMENT AND DISCOURSE

As I sat and observed the 2007 Year 7 Test in one state primary school in North Queensland, Australia, I was struck by the ways in which this kind of test *produces* teachers of mathematics. Firstly, it was the teachers’ job to ensure that the physical space (the school staffroom) was appropriately organised. The teachers supervised the arrangement of the furniture, ensuring that desks were well spaced to minimise interaction between students. They then directed students, many of whom appeared nervous, to their seats. Secondly, the teachers explained the test rules. They described how the papers were to be handed out and collected, how the answers were to be entered on the papers and how each section was to be timed. They instructed the students to ‘read the paper carefully’, to ‘check, and recheck’ their work, and to ‘take their time’. They then asked the students if there were any questions. One student asked, “What will happen if we fail the test?” One of the teachers assured the student that the test “means nothing” and advised the students to “just relax” and “do their best”. Thirdly, the teachers administered the test, distributing the test papers, and ensuring children had entered their personal details correctly. The children were then instructed to begin. Each child worked in silence. From time to time a teacher would read aloud from a prepared transcript to guide the children through the various sections of the test. The teachers remained distant from the students except to read to them a word or sentence where the students requested help. In one section of the test the teachers read mental calculation questions aloud in rapid succession. No other assistance or explanations from the teacher were permitted. Towards the end of the test, two boys who flouted the ‘silence’ rule were quickly separated. There was palpable relief from both students and teachers when the two-hour test was finished.

This scene was familiar in more ways than one. It occurred to me that what I had just witnessed bore all the hallmarks of a military operation. Using this metaphor I began to consider the ways in which teachers and students were constituted within the apparatus of this standardised Test. Acting on orders from above the teachers became

commanders in the field. Facing their compliant and well-ordered troops, they marshalled their student/combatants for the assault. Assigned a (solo) mission, the students were trained, briefed, primed and cautioned. As if this were an engagement in hostilities, the teachers advised students to *read* the situation carefully, *check* their positions, and to *restrain* themselves from rushing precipitously into unknown territory, speaking of the test as they might a danger zone fraught with ambushes and traps. Much as soldiers are expected to blindly obey, students' obedience to the test's rules was strictly policed by their commanding officers. Students who failed to carry out orders were summarily placed in solitary confinement. In the manner of troops kept in the dark about dangerous manoeuvres masterminded by their superiors, the students were told that the test 'meant nothing', even though everything about "Operation Big Test" was indicating otherwise. The atmosphere was one of excited tension and potential menace. For teachers and students alike, conscientious objection, desertion or absences without official leave were out of the question. In using the phrase 'just do your best' the teachers both acknowledged and accepted the inevitability of casualties - some students might survive this assignment, triumph even, but others would 'fall'.

Using this kind of metaphor to make new sense of a familiar event in order to see the ways in which teachers, students and the test were acting and being produced as 'identities' may seem out of place in an academic research paper, but as Foucault (1977) has convincingly illustrated through comparisons between prisons, hospitals, armies and schools, discursive practices – those practices we not only speak about but *call into existence, allow* and *enable* through our speaking of them – cross institutional boundaries and constitute the interactive relationships of power found in mega-organisations, such as armies and education systems, that characterise much of contemporary social life. Within these social discursive spaces, the identities of individual actors such as teachers and pupils for example, are made and remade.

Many researchers have used the concept of identity to examine what happens for individuals in mathematics education settings. *Identity* is by no means a straightforward concept. Schifter (1996) views teacher identity as multifaceted and formed through professional narratives constructed in practice. Holland, Lachiotte, Skinner & Cain (1998) make a distinction between *figurative* and *positional* identities, the former described as something generic, desired and imagined, and the latter more specific, located and relational. A focus on the situated and social nature of identity in education as something individuals build within communities of practice is emphasised by Wenger (1998) and Boaler, Wiliam & Zevenbergen (2000). Hogden and Johnson (2004) and Van Zoest & Bohl (2005) incorporate specific teacher knowledge, enactment in social situations, and cognitive engagement into their theories and analysis of the development of mathematics teachers' identities.

Mendick (2006) is uncomfortable with the word *identity*, explaining that, "identity" sounds too certain and singular, as if it already exists rather than being in a process of

formation” (p. 23) preferring to speak of ‘identity work’ or ‘identification’ (from Hall, 1991). These terms capture the nuanced, mutable and ‘lived’ nature of identity as situated, as in constant process, as both psychic and relational, and as represented in narrative. Mendick believes that “‘identity work’ positions our choices as producing us, rather than being produced by us” (p. 23).

Lacan’s psychoanalytic theories of subjectivity (1977, 2002) are useful for the ways in which they supplement Mendick’s inclusion of the psychic. Lacan points to the desire of the *self* to be ‘present’ as a *secure identity*. Where many post-modern theorists perceive identity as the product of deliberative, social, conscious constructions of realities of self including ‘self as *mathematics teacher* or *learner of mathematics*, Lacan was more interested in the work of the subconscious, believing that it is in the interplay of what he termed the Symbolic, Imaginary and Real psychic registers that identity hovers as something always in the making, something formed and forming in its own seeking of itself.

Inspired by Walshaw’s (2004) analysis of learners in which she attempts to weave together postmodern social theories of identity production and Lacan’s theories of self, I use a combination of theories in this paper to explore teacher identity in children’s mathematical schooling; I look in particular at the ways in which teachers’ identities were both challenged and confirmed by the Year 5 and Year 7 Numeracy Test. The paper uses data from a research project that began in 2005 and was extended in 2007. The administrators of a large suburban school in Queensland Australia were aware of challenges the Queensland Studies Authority (QSA) Numeracy Tests presented for teachers, students and parents and requested research assistance in gathering data and compiling a report to present to the QSA, believing a community-based, bottom up approach to ongoing development in education to be essential. Four Year 5 teachers and four Year 7 teachers were involved in the study in which they shared their views and experiences of the Numeracy Tests. Shortly after the test had been administered, the teachers talked about the test in small groups and their conversations were recorded and transcribed.

In contemplating their experiences of the test, the teachers were defining and reflecting their identities as teachers. Some teachers like Karen, Allie and Col had been teaching Year 5 and Year 7 students for many years and were therefore very familiar with the tests, but for teachers like Jemma and Ralph, this was their first experience. In the following analysis of selected excerpts from the teachers’ conversations, I look at the ways in which the teachers were both *inscribed* from without and *became* from within, through the productive and signifying processes of engagement with the test.

Mathematics teachers as coaches

One of the first issues the teachers raised in their conversations was how they had prepared the children for the test. They spoke about preparation as something they believed they must do but problematic since the test was an unknown.

- Karen: You have to prepare them, but you don't want to scare them. You try to prepare the kids for what's in the test. As you prepare, you think, that in the past there has been a big measurement component, and operations with the calculator. And this year what is the emphasis? - spatial knowledge! It's like "we're testing only the boys this year because you want to see how they go on spatial knowledge." For us to prepare, because of where [the test] comes in the year, we haven't covered all the concepts so you try to pick up what possibly will be there and spatial knowledge [in the past] has only been fairly small [proportion of the test].
- Jemma: This was my first time doing the test. I didn't really know how to prepare them. In the few weeks before you do a lot of practice tests. I probably worked with number more than anything else presuming that this is such a large part of it.
- Ralph: You want your kids to do the best that they can and you try to help them out and you do your preparation...it's good to do them in the multiple choice format that they have, just to familiarise the kids.
- Col: We talk about pressure on the kids but also on the teachers as well, because if we don't, you know... we've got to prepare for this because you're not giving the kids the opportunity that they, you know, to show their best and that sort of stuff...
- Dan: You've just got to make sure that you've covered everything, so the kids aren't surprised... it's a stress to make sure that you've covered everything, and you've covered it well enough...we did a lot of practice, especially the numeracy one, I found a really good book and it had quite a bit of multiplication, colouring in bubbles, and I felt that it really helped them in terms of that stuff.

In the discursive practices surrounding the test, the teachers both acted and spoke of themselves as *coaches* whose job it was to ensure that the children were well-prepared without 'scaring' them. They attempted to anticipate the content of the test based on their knowledge of previous tests. They did their best to 'cover' all the mathematical concepts that were likely to be included. Because the test was not in a format that the teachers usually used to assess mathematics in their classrooms, the teachers trained their students for the test through practice so the children would be fit to sit the real test, and 'do their best'. The teachers regarded their attempts to prepare the children as being thwarted by the unseen writers of the test whose agendas were at odds with their own.

Here we can discern not only Lacan's Symbolic psychic register at play, in which the "Big Other" of the test itself – its questions, its instructions and its statistical results – both allowed and constrained teacher actions, but also the Foucaultian notion of discourse as 'productive' – hence teachers are produced as trainers, kept in the dark

about the content of the test, shut out of the process of test design, and distinctly separated from governmental assessment authorities.

Mathematics teachers as mathematical experts

The test was as much a test of the teachers' mathematical skills as it was the children's. Both the Year 5 and Year 7 teachers found that they were sometimes struggling to determine the correct answers for test questions, as these excerpts show.

- Allie: Even in the angles [one] as adults we all had huge discussions about that didn't we?... You know the one with the angles.
- Dan: It was worded really strangely this year I felt, and the kids got really confused with how it was worded... they had to do the "insides" (angles).
- Kate: Some of it was ambiguous.
- Jemma: I found a lot of the questions were trick questions rather than just doing straight operations. I was thinking that these twelve-year-olds were asked to do some horrendous problem solving.
- Ralph: I enjoy maths but I didn't enjoy all those spatial questions, probably because I hadn't covered as much of that type of stuff.... It's testing comprehension rather than mathematical skill.
- Karen: It makes you wonder what is the purpose of the test. Are we trying to find the gifted kid, therefore we throw in the hairy question, or are we trying to find whether the kids in Queensland are at a standard?
- Lee: We think, "Well if we teachers don't know, how are the children expected to know?"

A Lacanian analysis looks to the ways in which the teachers reacted when confounded by some questions in the test. Their need for clarification had led to discussions among the staff to establish the 'right' answers. Teachers, they seemed to be saying, should be experts. What is too difficult for the teacher must be too difficult for children. To maintain (self)perceptions of mathematical competence, some teachers had looked to external causes such as 'strange wording' 'horrendous problem solving' or 'ambiguity' to explain their own difficulties in answering the questions. Although it may have crossed their minds, none of the teachers suggested that their own mathematical content knowledge may have been insufficient, since this would have undermined the security of their identities as 'experts'.

Mathematics teachers as program managers

The test altered the teachers' mathematics programs, and was thus viewed as an intrusion into their everyday role in deciding what mathematics the children should learn and how they should learn it.

- Col: To me it rearranges my teaching format... I used to do chunks of things, so you know in the fourth term might have been the measurement or it might

have been heavy in that, and therefore you've changed your whole way of teaching because you've got to do bits of everything to ensure that they get a range of choice.

Allie: In a way this term has been totally modified because you've been trying to teach the kids the things that they need to know for the test that's in August... You're disadvantaging them by not doing it...It has really altered, you know, almost like a whole term of nothingness...

As *teachers* they seemed to believe that they were conferred the responsibility and the freedom to design and implement mathematics programs as they saw fit. The test created dissonances by reconfiguring this function. Teaching children 'things that they need to know for the test' – teaching *to* the test, in other words - was rationalised as 'ensuring the children were not disadvantaged', even though in so doing the teachers' best laid programs were reduced to 'nothingness' or 'bits of everything'.

Mathematics teachers as pedagogues

The test ran counter to what the teachers said they viewed as best practice in teaching and assessment of mathematics.

Yolanda: I find it very frustrating that we test them that way when it's not what we teach, we teach them to talk and discuss, that's how they work now...we teach them to find information now. There's no way you can have it all in your head...

Karen: When we are teaching, you get a mark for the formula and a mark for the process, and a mark for the answer. The answer is the least important part, whereas understanding the process is more important.

Contemporary approaches to teaching and learning mathematics espoused in current curricula were reflected in the teachers' descriptions of their own teaching. Speaking as those who know best how mathematics should be taught and learned, the teachers were able to criticise the test for the ways in which it undermined exemplary practice. In this way the test enabled the teachers to define and clarify their pedagogical positions.

Mathematics teachers as mediators

The teachers also spoke of themselves as intermediaries between the children, the test authorities, and parents. They were particularly concerned about the reaction of the parents and saw their identities as 'competent teachers' under threat if the marks were not what the parents expected. They had developed a self-protective strategy for such a contingency – the role of the mediator. Both children and parents were told by the teachers that the test 'means nothing'.

Karen: I think parents don't really understand the test and they put too much value on it. Parents will come in and say "Can you explain this to me?" The biggest most important thing to say to them is [their child] may have got

very close to the correct answer, they may have actually known what they were doing, but if they colour in the wrong bubble, they are wrong... He understands, he knew to divide, but he made a 'boof head' mistake.

Ralph: I marked what the kids got out of 49 but I'm sort of reluctant to relay that to the parents...

Mathematics teachers as professionals

The teachers saw their own assessment of the children's mathematics as more accurate, indeed more 'truthful' than that of the test. This placed them in a difficult position when the test results were at odds with their professional judgement.

Dan: I just think it puts a lot of unnecessary stress on the kids...I have a much better idea [of children's mathematical abilities] myself, of what I see every day ...it's not a true reflection. I don't really see the purpose in it apart from, I suppose it's a good way...the next reporting system to go back to parents to show where their kids are up to...as I said, I don't think it's totally accurate so is that a good thing?

Karen: Sometimes it is a shock. If I think it's no reflection on the child's ability I'll just tell them that...I had a kid with full-on 'flu sitting the test. What do you do? So when he got his test back he was crying. I remember him in particular because he was so upset and he was so bright. I said, "Don't worry about this test, mate."

As professionals, the teachers were caught between seeing the merits of the test as a 'good way' to report children's achievement to parents because of its supposed objectivity, and their view of the test as an invalid form of assessment. They trusted their judgements about the children because they were based on professional observations of children's mathematical skills that the test could not 'see'. However, the underlying notion that a truth about the children's mathematical skills was there to be discerned and judged by a trained and experienced professional was reinforced rather than disturbed by the test.

'Good' mathematics teachers

Identifying as the 'good' mathematics teacher was another significant theme.

Jemma: That's a concern of mine that [the results] will come back and they will be down in the dark zone (referring to the shaded part on the scale of results that indicates results below the average or national benchmark). I'm not worried in myself because I think I do a good job, but I don't actually know. Maybe I'm not doing a good job. We know that there are some teachers around that really aren't good teachers and this test would probably pick that up...I just know that if my kids don't do well I would have thought, "What am I doing wrong?"

Karen: It's not meant to judge the teacher... Those kids bring so much to the test anyway, so if it was a really bad teacher, those kids could still do well. A really good teacher is a teacher where the kids are doing really great assignment work, they're doing great art...

Ralph: I guess the pressure comes in the results. I was confident that I prepared them well for it, but I haven't had to sit down next to somebody and compared my class and seen whether my kids were above, average or below compared to other classes.

Jemma's distinction between 'thinking' and 'knowing' that she is a good teacher, is telling. It was insufficient for Jemma to think she was a good teacher; she needed some external measure such as the test to tell her for sure. Only then would she really 'know'. The test therefore served as a reliable gauge of performance. For this reason it was worrying for teachers when the children's marks on the test differed from the marks they received in classroom-based assessment tasks because it created a tension between *thinking* and *knowing* they were good teachers. Any discrepancy in the 'truths' that the assessment results told about the child were also difficult for children and parents to reconcile. The teachers were then faced with a choice between either explaining away the test results as invalid, or admitting they were not good teachers. For the teachers it was a relief when the test results were consistent with their own judgements since their desire to be seen as good teachers was fulfilled. Allie's remarks illustrate this very clearly.

Allie: [The test results] came out pretty much exactly the same as [the children's] record cards. It's nice when that happens. I've had a couple of parents say, "Oh it was nice to see that they were saying the same thing." It doesn't normally happen that way. Normally [the test results] look much worse. Maybe I'm getting better at it. But there was one [surprise result] - I rang the parents up and I said basically, "I don't know where this [result] came from." And they said, "We don't care anyway because this makes no sense to us." They know what their children are like. It's not [the 'right result']...so we go, "Oh well, it's an anomaly".

Allie's comment, "Maybe I'm getting better at it," suggests that she believes that a good teacher is one who is able to make judgements about children's mathematical abilities that closely align with the official, objective, standardised and therefore more 'truthful' judgement of the numeracy test. Where test results 'make no sense', it is a relief for the teacher when parents view the result as 'an anomaly' rather than a consequence of poor teaching. Ralph took 'good teaching' a step further:

Ralph: Another point is, when it comes to the federal government's interest in performance-based pay... a national standardised test, something like that, will be a guide to performance based...

Karen: Can you imagine how we would be teaching? We would be teaching straight multiple choice. Oh my God, it would be so boring.

DISCUSSION AND CONCLUSION

I set out to examine the part the Years 5 and 7 Numeracy tests play in teacher identity. From the teachers' conversations there is evidence that the test challenged as well as reinforced teachers' perceptions of themselves as teachers of mathematics. The teachers spoke of the format of the test as undermining the ways that they usually taught mathematics. Standardised testing has long been criticised for the way it channels teachers' actions, particularly where classroom practice becomes dominated by 'teaching to the test'. There is clear evidence that this cohort of teachers treated the test not only as a measure of the children's capabilities in mathematics, but also of their own teaching of the subject. Even though school policy dictated that a child's progress should be monitored and reported using a suite of assessment results gathered over time and using 'authentic' assessment methods, the capacity of the test to define, shape and reflect teacher identity subverted the school's attempts to offset what teachers described as the untrustworthiness of the test results.

'Teaching to the test' can be seen as a response that is tightly tied to teacher identity. This analysis shows that the 'identity work' involved in teachers' engagement with the test is complex. Caught between multiple views of themselves as teachers of mathematics within the defining apparatus of the test, the teachers struggled to reconcile their beliefs about best practice involving processes, understanding and discussion rather than correct answers, the test as an authoritative judge of children's mathematical capabilities, their desire to be seen as 'good' teachers as shown by positive test results, and the need/wish to support children to do their best. In the end, despite its disruption to teachers' mathematics programs and the difficulties it created for teachers in mediating between parents and children, the test was vested with authority as much from teachers' choice to go along with it for the part it played in their 'identification' as teachers of mathematics, as from the intrinsic power it wielded as an externally imposed form of assessment. In Mendick's (postmodern) view, such a choice *produced* the teachers rather than being produced by them, in other words, the teachers were 'choosing' to behave only in the teacherly ways that the test allowed and/or demanded. From a Lacanian perspective, the choice was tied to the teachers' desire for a secure identity. While they may have railed against aspects of the test for the troubles it caused, in so doing, the teachers were producing themselves as professionals, as mathematically competent experts, and as 'good' mathematics teachers. The test symbolised a commanding authority, made them 'real' as mathematics teachers, and at the same time opened spaces for their visualising themselves as ideal teachers in ideal mathematics classrooms.

I will now return briefly to the military metaphor I used at the beginning of this paper to reframe the identification I observed in the test procedure. The ease with which I was able to translate the teacher/pupil actions and interactions into a military context suggests that identity is as much about the social and psychical aspects of relationship, interaction and techniques of power as it is about local needs, specific

events or specialised knowledge. In other words, teaching and learning mathematics has little to do with it. If this is so, the test is only marginally concerned with the teaching and learning of mathematics and primarily serves, intentionally or not, to establish and maintain an accepted 'order of mathematical identity' of which teachers' identities, in a continuous process of formation, are a (self)recognised and recognisable part.

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