

# Teachers as theory builders: making a difference to student outcomes

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I'm sure that not one of you will be surprised to hear that research consistently shows that teachers are a crucial factor in making the difference to student outcomes in literacy (Chall, Jacob & Baldwin 1990; Darling-Hammond 2000). I'm sure the same is true of numeracy.

It is teachers' expectations, their enacted curriculum, their classroom talk, their relations to young people and their actual ways of inducting them into specific textual practices that most affect literacy outcomes.  
(Kamler & Comber 2003: 327)

This morning I want to share with you aspects of the report *Nothing left to chance*, which is the summary of a research project I was involved with in 2001/2002, along with Pat Grant, Lynne Badger and Anna Rogers from the University of South Australia. (*Thanks to Pat for her help with this paper.*)

This research project, jointly commissioned by DECS and the South Australian Primary Principals Association, was funded by the Commonwealth Government's 'Strategic assistance for improving student outcomes project' and was titled High performance in Literacy and Numeracy in Disadvantaged Schools Project. Our brief was to conduct research in eight disadvantaged primary schools that had achieved much improved student outcomes in literacy and numeracy, and to construct a Profile that could be used by other schools that wanted to improve their own practices around literacy and/or numeracy. That report, *Nothing Left to Chance*, is available on-line via the educators' section of the network, [www.thenetwork.sa.edu.au](http://www.thenetwork.sa.edu.au), and many of you may have already accessed it.

Now in case you're already thinking, 'Oh no! Boring! I've already read that report', let me say that I'm not summarizing the report this morning. Rather, I'm interested in exploring a rather striking aspect we encountered in each of the Project schools: the amount that teachers knew. Whilst I will talk a little about the ways in which teachers developed their knowledge base, I particularly want to illuminate the ways in which teachers built and used theory in ways that enhanced their agency. So I'll be emphasising the importance of **theory** as one of the essential factors that made a difference to student outcomes. For it is the quality, the kind of theory underpinning action, that makes teacher agency effective and positive. So in acknowledging the work that teachers do in working with students from poor and diverse communities, in particular, I want to position them as theory builders and theory users.

Let me tell you a story about one of the research schools.

I arrived for my first visit, by arrangement, about 15 minutes after the first bell of the day, and was very warmly welcomed at the front office. There were comfy chairs, displays of students' work, a notice board for parents, pots of well tended plants, and the immediate offer of a cup of tea. I immediately sensed a very positive 'tone' about the school; that illusive, ephemeral quality that results in a 'gut feeling' that this is a good space to work in. But as the morning progressed I became more and more uneasy.

Firstly, I heard a lot about 'Accelerated Reader', a computer program bought (apparently) from America. Students were assigned a reading level, and could not move up to the next level of book until they'd read a certain number of books, completed on-line tests on each of them, and got the computer's say so that they were ready to proceed. The school used this scheme in conjunction with 'Rainbow Reading', a levelled scheme for failing readers which matched them with a book then gave them repetitive practice on that book until it was mastered. I was taken to a resource room to see what looked suspiciously like basal readers, colour coded for difficulty. I saw a literacy block, where students were working on spelling sheets, apparently doing drill and practice with words out of context.

'What's going on here', I asked myself. 'What have I gotten into?' These practices appeared to be the ones that we had criticized so roundly in the 80's, when the first wave of 'whole language' swept through our schools. But in terms of improving student literacy outcomes, this school had been identified as being highly successful. It was a lighthouse school; a school whose practices were deemed exemplary and were 'on show' to teachers from other regions in the State. Perhaps the problem was that its achievement had been determined largely on the results of the Basic Skills Tests. Perhaps the emphasis on skills and drills was helping students to pass the tests. But those tests should have disadvantaged students from schools like this one because their items are largely predicated on white, middle class values and cultural practices. Quite honestly, I was at a loss. These practices should not have been working. But they were. And they were according the statistical data, to the staff in the school, and to the committee, which had given this school an award for literacy achievement. What was going on?

The coordinator who had been the powerhouse behind the whole school literacy program had transferred to another school. When I interviewed her the following day the pieces of the puzzle began to fall into place. She was able to eloquently and coherently present the educational reasons for the decisions that had been taken by the school. She explained the *why* behind what had been done. In other words, she expounded the theory. Let me tell you some of the things she said.

Firstly, the schemes, the sets of levelled books, were **not** (as I had thought) the reading program. The reading program was, to use her words,

'... a balanced program. It's a program that's got independent reading. It's got shared reading. It's got guided reading. It uses a variety of ... texts. Different types of texts. And a balance of strategies. We are not just teaching one single strategy...'

So there was a rich interrelationship between immersing students in high quality literature by reading aloud to them; of guided reading; of using different genres; of explicit teaching of strategies; and of successful independent practice

In the 60's and 70's levelled books often **were** the reading program. What was different here, and in the other project schools we researched, was that levelled books were a **resource** for the reading program. They were used as a strategy by teachers to manage frequent independent reading practice, so that students were successfully integrating the reading cues, building their

reading muscles. Decoding and comprehension were both seamless and effortless. In concentrated bursts of time on task students were practicing as effective readers. As the Coordinator said,

We saw Accelerated Reader as the way of making sure that when the children were reading independently they were reading successfully. So that was one way of checking that. But we recognize that other parts of our reading program were asking the other sorts of questions. The high level thinking questions.

What this story illustrates is the critical importance of theoretical knowledge in underpinning educationally viable decisions in this school. It was the theory that determined the role of the computer programs, how these linked with the overall program, why it was important to have books levelled.

Every decision we make as teachers comes out of some kind of theory - either the kind of theory that is implicit in everyday life, or the kind that comes out of the academy (Schratz & Walker in Sachs 2003: 82). Garth Boomer wrote:

There is a pervasive myth about teachers who are not interested in theory ... I suggest strongly that teachers ... need to re-value theory, not as something 'out there' which experts have, but as their own present understanding of why they do what they do (Boomer 1988: 227).

Theory of this kind, the 'why we do what we do', can be constructed out of our own classroom practice, and that's perfectly legitimate. In 'speaking her theory', this coordinator was drawing on four things:

1. her own long experience (14 years?) as a teacher in this disadvantaged school
2. data collected about the students
  - that they had 'stalled' as readers: a survey showed that '... we just didn't have children that were reading. They were reading in junior primary, because books were leveled, and there was lots of monitoring going on. ... there was very little checking on them after [year 3]. [We wanted them to understand] that reading wasn't something that was done to them, it was something that they were part of and doing. ... they didn't believe in themselves as learners.
  - time spent in choosing books  
'... we got into a program called Accelerated Reader ... and the librarian couldn't believe the difference. She had children before that coming into the library who would spend 20 minutes wandering around looking and saying there is nothing in here that I can read. Once they were leveled and they knew that they were reading 3.6 or 4.6 books they came in, and because they can only choose from 10 [books] they would choose really quickly and then go off and read and be successful.'
3. data collected about teachers' programs  
'... when we looked at the type of things that people used in their classroom, they tended to be really narrow. So we needed to broaden their understanding of different types of genre so that students were exposed to that. Some kids had never encountered poetry. Or they had only encountered poetry by copying off the board. They hadn't actually analysed what a poem was in a guided reading session. I remember being in a class last year and the teacher was doing ballads with them. And they were absolutely fascinated about ballads and the structure of the ballad and how that worked.'

4. her professional reading - from 'the academy' as part of a Special Education degree; formal professional development; area networking; her own interest in and passion for literacy

What can we say about the theory she constructed from these four sources?

She knew that theory can be developed out of practice, of experience, as well as from research. She knew certain things from working in classrooms; she gathered other data by conducting research – surveying students, observing them as they chose books, analyzing teachers' programs. And then she ensured that these two 'spoke' to one another. She used them in mutually informing ways.

Her theory was contextualized. She knew about *this* school, *these kinds* of students and their families, not in a pejorative or judgmental way, but in ways that allowed her to see where they were 'at', and to explain where the school was 'at', as she worked with her colleagues to implement an appropriate school wide literacy curriculum.

She was tapping into theory about student interest and choice. We know that when students feel they have some say over their learning then they are more likely to be engaged with it. Students did have some choice: there were ten or more books at each reading level. But they were not wasting time because the choice was overwhelming. So there's an awareness of the importance of time on task. Again, theory is informed by both observation, one form of research, and practice.

She was also very aware of the need for successful independent reading practice, and talked quite a lot about that. She told me several times that it was successful independent reading practice that the 'Accelerated Reader' and 'Rainbow Reading' supported, as did a program called 'Electronic Library', which *she* thought was 'the most boring program but the kids loved it'. And her knowledge about what constitutes successful independent reading practice comes straight from research.

Let's take a moment to refresh our memories about the three levels of reading performance.

There's the 'frustration level' at which reading materials are so difficult that children cannot successfully respond to them, even with teacher direction and guidance.

Then there's 'instructional level', the level at which readers will get maximum profit from teacher directed instruction in reading. This is the kind of material we use for guided reading sessions, and as the basis for some of our explicit teaching, particularly on non-fiction.

And the third level is the 'independent level', at which readers can function successfully on their own, doing a virtually perfect job responding to printed material.

The coordinator was familiar with these levels, which her experience as a Special Education teacher for some years had confirmed were pedagogically sound. She knew, from theory produced in the academy which resonated with her own experience that successful practice at the 'independent level' is critical to success in reading.

Marie Clay has been an extremely influential figure in the teaching of reading. Here we have an example of a researcher from within the academy carrying out much of her work with teachers in classrooms, using theory to explain practice, and practice to talk back to theory. Clay talks about the dangers of pushing students too quickly, of making the 'gradient of difficulty' (Clay 1998: 243) too steep. Think about the analogy of athletes for a moment, or more specifically of swimmers. They spend long hours in the pool just swimming laps. They concentrate on stroke making, on breathing, on coordinating a four beat or eight beat kick with their arm movements and breathing.

They concentrate on refining their technique until they hardly have to think about it. They practice and practice and - eventually - the coordination of all these areas they've focused on becomes automatic. There are many, many long hours of practice before they swim a race, pushing for that personal best. What Marie Clay is warning us about is pushing children into a 'race through reading'; of upping the level of difficulty before they have successfully coordinated the reading cueing systems sufficiently for reading to become automatic at progressive levels of difficulty. We all know what happens to us when we are given really unfamiliar material to read: a legal document, or perhaps a letter from the tax office. Our reading slows down, we 'change gears', we re-read sections as we try to make sense of what we're reading, our comprehension plummets. This is what reading can be like for children who are given insufficient practice at the 'independent level', and it was this that the Project school was addressing.

Theory is useful because it acts as both frame and lens. As a frame, theory allows us to structure the plethora of things we know about teaching and learning so that it is intellectually manageable, so that there is some kind of mental organisation. As a lens, theory allows us to critique and interrogate our own ideas and practices as well as those of other people. Ball postulates the important role of theory as a way of 'thinking otherwise', a platform for 'outrageous hypothesis' and for 'unleashing criticism'. Theory, he claims, is 'destructive, disruptive, and violent. It offers a language for challenge and modes of thought, other than those articulated for us by dominant others' (Ball 1995 in Sachs 2003: 82). And although I've used the singular noun theory, in reality we hold a variety of theories - about gender, about class, about how students learn, about effective pedagogy, about what counts as culturally valued literacy practices, about power is manifested in schools, and so on. So we can actually use different theoretical lenses to look at the same scenario, thus illuminating different aspects of it and building more complex understandings.

Importantly, theory allows us to challenge the taken-for-granted, the way things are, and think about different possibilities that will achieve different results. It allows us to weigh up the likely advantages or disadvantages of proposed educational or curriculum changes. It allows us to generate answers, rather than to depend on the answers provided by other people. It gives us agency as teachers. When we are aware of the theory which informs our decision making and actions, then we have better understanding of why we are doing what we are doing. I strongly believe that it's the quality of our theory that most significantly affects our agency as teachers. Research in the Project schools clearly illustrated that well thought through theory is at the heart of well thought through practice.

The Phase 1 schools in the project, the eight schools in which we did the research, were all visited by teachers from other sites who were looking to adopt more effective literacy and numeracy practices in their own schools. There was a significant risk that visiting teachers might resort to 'fragment grabbing' behaviours (Boomer 1988: 227). What if those visiting teachers had picked up the fragments of 'Accelerated Reader' and 'Rainbow Reading' without understanding their relationship to the whole reading program; without accessing the theory that underpinned their use in the Project school? What if I had failed to ferret out the theories underpinning the practices, and had continued under the misapprehension that the practices I had seen on that first morning were the reading program?

What if we, as researchers, had simply provided a description of what each of the eight schools was doing rather than looking for an underpinning theoretical framework? We know that teaching and learning are highly contextual: what works in one classroom in one school with one group of students does not necessarily transfer successfully to another class in another school, or even another class in the same school. What we needed was a set of 'somethings', and we eventually called them characteristics, that could be translated into appropriate practice at other, quite different sites. Importantly, these characteristics had to reveal the theory, because that's the significant factor in generating effective practice in new and different contexts. It's theory that is generative. It is theory that makes us reflective and critical professionals rather than mere

technicians. It is theory, that attempt to explain why, that confronts and challenges and makes so many of us passionate about our work.

Teachers in the Project schools had well articulated theory about a number of areas of practice that their data showed was making a difference for students. One area that was highly theorized in the Project schools was the cultural construction of literacy. The schools understood that many of the literacy practices valued and enacted in school are very different from those of their students' homes and communities. Knowing that the collection of specialized registers [and forms] of English needed for school success, described as 'secret English', are not learned through immersion or whole language teaching approaches (Martin et al in Walton 1993), teachers ensured that they provided explicit teaching of these registers and forms so that Aboriginal students in particular could gain control over them.

One of these explicit teaching strategies, called pre-formulation, where the teacher gave students

enough cultural information about what you are heading for [so] every kid in the class, not just the two top kids, can answer the question.

Rather than asking fake open ended questions, the teacher modeled what the culturally valued aspects of the text were.

What I modeled was, 'Now this is orientation. Now remember that orientation is where the author introduces the characters and the setting. And look, the illustrator is introducing the characters in the setting too. Can you see who the three main characters are?' Now every kid knows that this is the orientation and the valued answer is the three Billy Goats Gruff.

Gradually students internalize the questions and learn the valued responses, so the amount of pre-formulation the teacher does for that kind of genre can be reduced. Three texts later the teacher can say

This is the orientation. What has the illustrator put in the illustration to introduce the characters and the setting?

In talking about successful practice teachers again and again demonstrated familiarity with theory that gave insights into why some pedagogical practices would be more successful than others. Sometimes they had come across research or theory which gave support for what they already knew from their own teaching, enhancing their sense of efficacy. At other times their engagement with theory pointed to new ways of doing things which they found were more successful and achieved better outcomes for students.

But there were some areas of practice which seemed to be at odds with one another. There were apparently contradictory things going on, often in the same classroom. Theory and practice were very uneasy bedfellows! For example, comments like '*We have high expectations of our students and they achieve them*' or '*They can be successful learners no matter where they come from*' occurred alongside statements like '*These students need lots of repetitive practice*', or '*They need simple, routine tasks*'. How were we, as researchers, to reconcile the apparently negative constructions of students with the espoused belief in their ability to succeed and the very positive ethos we observed in each of the research schools?

Again, we turn to theory. A theoretical framework both informs and is developed through research – whether that research is teacher action research, collaborative work between academics and teachers, or carried out by academics on schools and teachers. In this case, a theoretical

explanation of apparently contradictory practices comes out of collaborative research work between an academic, Stuart McNaughton, and classroom teachers in New Zealand. McNaughton, who works with (disadvantaged) Maori communities in New Zealand, knows that one should never discount teachers' experiential knowledge about what works, what constitutes effective practice. He is another academic who uses theory to explain practice, and practice to talk back to theory. From contexts similar to those in the Project schools, he developed the concept of the wide/narrow curriculum, which he explains in his book *Meeting of minds*.

In all the Project schools a very rich curriculum was on offer, but various parts of it, at different times, became a narrow focus for teachers and students as they attempted to gain mastery of a new aspect. (I've already mentioned examples of this in the reading program.) The curriculum was a changing but carefully controlled kaleidoscope of wide and narrow offerings as students were immersed in a variety of complex literacy/numeracy tasks (a wide curriculum) then focused on and practised the component parts which are required for independence and success (a narrow curriculum). For example, in the wide curriculum students might be organising a school fete or disco, or planning a new playground. In the narrow curriculum they could be determining how much profit will be made on a saleable item by practising subtraction, or working to a budget of \$25000 (again practising addition and subtraction), or working on scale.

What appeared to be happening was that teachers were using the wide curriculum to allow for, in James Gee's terms (1990), *acquisition* and the narrow curriculum for *learning*. Gee points out that

We are better at performing what we acquire, but we consciously know more about what we have learned . . . [A]cquisition is good for performance, learning is good for metalevel knowledge.  
(Gee 1990:146)

Students need to encounter both acquisition and learning in the school curriculum. There are two reasons for this. Firstly, learning cannot occur if acquisition has not already begun, if there are not models of 'doing literacy' and 'doing numeracy' from which students can extrapolate. Secondly, the education system rewards metalevel knowledge (eg. being able to deconstruct valued text types; or using abstract language to analyse and critique texts), the kind that is *learned* through explicit teaching, practice, and conscious reflection.

So the concept of a wide/narrow curriculum, and the way it accommodates both acquisition and learning, can be a powerful way for teachers to understand what works in their classroom; to justify the ways in which they switch, according to children's needs, from complex to simple tasks, from problem solving to explicit instruction, from skills and drills to constructivist approaches. We must, of course, guard against the danger of this theory being misused to justify approaches which are not pedagogically sound. But if it explains aspects of practice which we know are effective for students, but remain silenced because they are not in line with current system sanctioned approaches to learning, then it becomes a powerful tool.

I hope that in sharing some of the stories from the Project I have shown that teachers who had a high degree of agency in improving literacy and numeracy outcomes for students were theory builders and theory users. They knew what worked in practice and were able to connect that with theory. They were incredibly articulate about why they were doing what they were doing. They were willing to explore theory as a way of explaining practice, because that made them more effective as teachers. It helped them to articulate their practice. It helped them to evaluate their practice. It helped them to refine their practice. They are a powerful example of the crucial role informed and knowledgeable teachers have in making a difference for students. The research team learned a lot from them. I have learned a lot from them. I hope that you might have too.

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