Performing curriculum change in school and teacher education: An actor-network theory account

Introduction

Currently, we are witnessing the expansion of a new form of knowledge which some call ‘working knowledge’ (Symes & McIntyre, 2000) – knowledge that is generated by and in the work situation (Barnett, 2000, p.16) – and others, Mode 2 knowledge (Gibbons et al., 1994) – knowledge that is cross-disciplinary, problem-oriented and applied. Among other things, this paper is concerned with how this shift is playing out in school curriculum and the implications of it for teacher education. It is guided by an image of curriculum as an ‘ecology of learning environments’ (Heath, 2000) that extends far beyond the school or the academy. In approaching curriculum change in this way, it is clear that the concept of a centre-stage curriculum performance can be problematised. Actual experiences of curriculum change may not simply involve the actions of a single powerful performer/performance such as the state or even schools. Rather, consistent with contemporary applications of Actor-Network Theory (ANT), curriculum may be performed in multiple locations and in multiple ways.

A body physically conditioned and trained to perfection will not necessarily determine the score a gymnast receives for executing a routine. Whether or not the athlete is psychologically prepared will also count. That is predictable too. But what about what is not generally so? Did the car break down on the way to the competition? Is the wrong background music playing? How do scores from the last competition matter? What about a young gymnast still at school – does gymnastics occupy centre stage? What will count towards the actual performance and what performances will count? Performances in the sporting or educating fields do not come ready made. The purpose of this paper is to show how curriculum can be thought about in terms of a field of practices – practical accomplishments, (co)performed by more than one, but less than many, people and things. Accordingly, and in line with actor-network theory, we aim to trouble the trope of centre-stage by turning attention to people and things that are not conventionally considered in curriculum theory and practice: the whos and the whats, so to say, that reside behind the scenes.

The framing of curriculum change as activity that extends beyond an individual act is hardly provocative or novel. Educators (and practitioners in many other domains) are well equipped with a comprehensive body of theoretical and empirical research investigating change in workplaces in terms of learning relationships between people. For example, Edwards and Usher (2003) and Young (1998) providing conceptual works concerned with the ‘sociality’ of curriculum change and empirical studies such as Flett and Wallace (2005) highlight the dilemmas faced by schools obligated to implement mandated curriculum change while simultaneously striving to promote autonomy and involvement.
More generally, Organisational Learning Theory (OLT) or Situated Learning Theory (SLT), together with associated notions of Communities of Practice (CoP), are well established concepts for thinking about (informal) learning relationships (between people, by people on behalf of the organisation, within and across communities of people), with the works of Argyris and Schon (1996), Senge (1990) and Lave and Wenger (1991) commonly providing the conceptual tools for such discussions. Both OLT and SLT assume that materiality plays a contextual, supportive role for sociality. In this paper, it is argued that approaches to researching and indeed practising curriculum change can be opened up by dissolving such an assumption. It is proposed that actor-network theory (Latour, 1987, 2005; Law, 1992; Law & Hassard, 1999), as a ‘humble ontology’ (Knopp, 2004), can be used to frame, and provide for the making of, complex, non-exclusive and indeed commonplace accounts of curriculum change.

In the first part of this paper a complex concept of curriculum change, drawing on post-structuralist framings and the idea of curriculum change as a network building practice, is developed. The origins, key tenets and variations in applications of actor-network theory are featured in this discussion. Details describing the methods used to investigate changes in a university teacher education program and a Year 7 school learning program follow this. Empirical data from these case-study projects is reported via the telling of specific stories of curriculum change. The paper concludes by proposing that curriculum should be viewed as a field of sociomaterial practices, rough and uncertain in texture.

Conceptual Complexity

When arguing for an approach to (Physical Education) curriculum change in schools that is informed by notions of a post-modern world, Macdonald (2003) likens schools targeted by nationwide curriculum reform agendas to a ‘chookhouse’ that returns to its normal routine after a flurry of chaotic activity. This is despite the use of top-down models of curriculum change that employ curriculum materials (documentation, subject syllabus, texts and codification in general) as mechanisms to facilitate the diffusion of the curriculum change. Macdonald also notes that bottom-up processes for curriculum change have seen teachers and schools take ‘centre stage’ in the curriculum reform process since the 1980s, with poorly resourced and loosely assessed curricula often occurring (in Australia and the USA). Moreover, both top-down and bottom-up models of reform have involved ‘slippage’ between what was intended and what was actually experienced as curriculum change, leading to the notion of a ‘partnership’ approach (between the two) to reform being advocated (e.g. Fullan, 1999).

Regardless of whether they fit best with top-down, bottom-up, or partnership models, such modernist-informed approaches to curriculum change do not sufficiently provide for increasing the relevance of disciplinary knowledge, decreasing economic and cultural imbalances, involving students in the construction (as opposed to consumption) of curriculum and accessing learning outside school (Macdonald, 2003). Also highlighting the dominance
of modernist thinking, in this case in relation to university undergraduate programs, Barnett, Parry and Coate (2001) discuss the relevance of use of Lyotard’s concept of performativity (faith in all things that can be quantified and measured) to growing concerns with managerial notions of quality assurance, benchmarking, transparency and accountability in the delivery of higher education in the UK. Writing in the context of ‘school change’, Nespor (2002) argues against modernist notions of reform and context as separate and discrete categories where ‘participants such as students and parents are relegated to the status of contextual elements, of interest only insofar as they modify, support or undermine the reform’ (p.365). Accordingly, he treats reforms and contexts as mutable and contingently defined; each transforms the other as they play out in practice.

A post–modern endorsement of difference and indeterminacy offers a way forward for thinking curriculum differently. In addition to the voices of administrators and teachers, a post–modern orientation provides for the voices of students, parents, past students, etc, to be heard not simply during the front–end planning (or evaluation) stage but as an ongoing influence on the way in which curriculum emerges, evolves and transforms. It is, however, the post–structural notion of textuality that is used in this paper to provide for complex accounts of curriculum change as activity co–constructed by sociality and materiality and performed as a field of textured practices (Gherardi, 2006, p.46). Such an approach can be viewed as working in a post–modern moment, whereby not one but multiple realities for curriculum change are conceptualised and empirically analysed as partially connected, sociomaterial network effects. In line with the reconceptualist commitment to seeking new ways of understanding curriculum (Pinar, Reynolds, Slattery, & Taubman, 1995), it can also be viewed as a modest contribution to the curriculum field.

**Curriculum Change as Network Building**

Approaching curriculum change in terms of network building activity means that no particular factor (official/unofficial decision–making, centralised/de–centralised planning, or indeed sociality/materiality) is assumed to play an essential or dominant role when curriculum change is performed in practice. Actor-network theory (ANT) provides the conceptual resources for thinking curriculum in this way. Drawing on ANT, curriculum change can be conceptualised as a field of sociomaterial practices in which processes of alliance formation or failures of negotiation take place (Harris & Marsh, 2005). In such thinking, a description of actual practice requires consideration of the setting in which it takes place. This setting is not viewed as the context for curriculum practice per se, but more so a source of materials, social and other, that will participate in the co-construction of learning, knowledge and curriculum change. ‘Like a magpie with a nest, learning (and innovating) is built out of the materials to hand and in relation to the structuring resources of local conditions’ (Brown & Duguid, 1991, p.47).

Actor-network theory is a theory about how knowledge comes to be produced and takes materiality to be ‘tangible knowledge’ (Gherardi, 2006). As one of the ‘founding fathers’ of ANT has it, ANT looks at the resources that are
mobilised to establish an object of knowledge: people, devices, texts, decisions, organisations, inter-organisational relations (Law, 1994). ‘ANT is part of the shift from individualized, psychological approaches to an understanding of knowledge-building as constituted through socio-cultural factors. Knowledge-building … is construed as taking place within a network, spread across space and time and that involves mobilized or enrolled actors, both inanimate – eg. books, journals, pens, computers – as well as animate’ (Usher & Edwards, 2005, p.405). The sense of ‘network’ that we work with here ‘treats actors as dialectically constituted by social relations, and treats network relations as the contingently stabilised connections produced by the movement of people and things’ (Nespor, 2002, p.368).

ANT’s conceptualisation of the social world as being made up of both human and non-human entities that potentially have the power to shape curriculum activity provides a non-exclusive frame through which curriculum change can be explored. By doing so, ANT explicitly steers the researcher’s attention to looking for the politics of curriculum and curriculum change as a sociomaterial practice. As such, ANT is a tool for making visible the negotiations that characterise patterns of curriculum ordering in which both human and non-human elements are key players. Thus, ANT does not view the success of curriculum change as being determined by whether or not individuals resist it or whether materiality such as technology, physical spaces or resources provide sufficient support. Curriculum change is a matter of practice, co-performed by sociality and materiality.

The idea that entities acquire form and attributes through their relations (connections, interactions) with other entities is central to actor-network theory. In line with the work of Foucault, ANT seeks to challenge essentialist assumptions which define entities in and of themselves, rather than relationally. ‘[T]here is no difference between the person and the network of entities on which it acts. Or (the real point) between the person and the network of entities which acts through the person. Network and person: they are co-extensive’ (Callon & Law, 1997, p.169). Such is the argument of ANT. Modernist epistemologies tend to treat knowledge and curriculum as something both independent of, and contained within, singular entities, such as individuals (students, teachers) and institutions (schools, universities and more contemporaneously, workplaces). Contrary to these assumptions, the broad commitment of this paper is to ‘relational thinking’ (Massey, 1999). As Massey explains: ‘Thinking relationally is, in part, an attempt to reimagine the either / or constructions of binary thinking (where the only relations are negative ones of exclusion) and to recognise the important elements of interconnection which go into the construction of any identity’ (1999, p.12). A relational approach to curriculum stresses a nonhierarchical way of thinking about difference.

Methodological Priorities – Visibility and Non-Exclusivity

Green (2003) argues that ‘a major and enduring feature of the curriculum field in Australia is its bureaucratic and administrative character’ and further cites the work of Marsh (1986, p.210) which, in turn, notes the persistence of
'centralised, efficiency–orientated curriculum decision making’ in discussions of Australian education. Indeed, by thinking curriculum change ‘relationally’, room is made for other curriculum characteristics to share (and even dominate) centre-stage. Thus, in addition to providing for the complex accounting of material entities, ANT (in its contemporary applications) makes visible the work of marginal entities in shaping practice. Less dominant factors, multiple voices present in multiple ways, are not overlooked as is often the case when looking through a lens that affords identification of a central curriculum force (such as the state or school). Plausibly, more dominant influences shaping curriculum change may be present.

Notably, ANT provides for such influences to emerge and to do so in not one key location but multiple locations. ‘For Instead of asking about the origins of action (a question which usually leads to a version of Western dualism), it asks, instead, about how knowledges or devices are distributed or disseminated’ (Callon & Law, 1997, p.167). The application of ANT in this way is clearly consistent with notions of situated and distributed practice. It is important to note that in providing for an accounting of the character of such intricacy and difference, ANT does not debunk notions of similarity. Indeed, the utility of ANT, for practitioners in particular, may be the visibility it provides for describing how governmental and industry policy initiatives are translated (transformed, negotiated), as opposed to simply being resisted or adopted, in practice. As such, ANT opens up the possibilities for researching, analysing and managing curriculum. The relevance of what matters is not predetermined. The relative influence of ‘actors’ that will participate in constructing curriculum change is not presumed. ANT will not be a tool of choice for those searching for a heroic performer or performance. From an ANT perspective, curriculum becomes an accomplishment of a network (or a complex relational field of actor-networks) rather than an individual teacher or individual school or individual state. ANT is a tool of choice for those who are ready to acknowledge that curriculum change will not essentially be neat, predictable or consistent. ANT is a tool for telling, using the language of the doers, along with those implicated in the doing. It is a tool for attending to what counts in everyday curriculum practice.

Data and methods

The empirical material used to ground the concept of curriculum change as network building activity is drawn from two larger projects and, in particular, the experiences with Problem Based Learning forming part of these projects. Problem Based Learning (PBL) is an approach to curriculum design that can be used not only in professional preparation but also for student learning in schools. A problem based approach to curriculum has the potential to link the professional knowledge produced through teacher education programs to professional practice in schools (and, in so doing, effect curriculum change). Similarly, such an approach to curriculum also has the potential to link student learning in schools to authentic, real life applications.

The first data set discussed in this paper relates to a PhD project investigating innovating activity in Australian schools. The purpose of this study was to
unveil the complexity of the change and innovation work performed by practitioners by tracing the connections between multiple (factors, including, but not limited to, local school and government policy making. The data reported in this paper were collected via the conduct of six key informant interviews with school leaders and a group interview with a cross section of six teaching practitioners at one of the four research sites. The interviews ranged from between 60 and 90 minutes.

The second data set was produced from a project which investigated the use that newly graduated teachers make of pedagogic processes encountered in the course of an 'alternative' program of teacher education, where the content taught through the campus-based curriculum connects directly with the experiences that student teachers have in schools. These data were collected as part of a study funded through a Faculty competitive grant at the University of Melbourne. Conducted in 2004, this study involved interviewing 20 graduate teachers who were members of a Problem Based Learning cohort 2001-2003 and who are now practising professionally in secondary schools. Approximately 30 minutes in length, the interviews conducted were semi-structured and open-ended in nature.

In the spirit of emergent qualitative interviews, conversations in both studies did not strictly follow the list of questions. With respect to the data sets overall, records and transcripts of interview were analysed using qualitative methods of content analysis. They were first read a number of times to interpret general patterns of meaning, then divided into discrete meaning units which were coded at increasing levels of abstraction to identify repeating ideas, topic categories and themes. These were read against one another within each record and transcript, seeking patterns of commonality as well as points of difference. Themes were then compared across the records and transcripts to identify ‘overall’ differences and patterns of similarity.

Consistent with ANT, methodologically it was assumed that the relevance of actors influencing experiences with curriculum would emerge. In comparison to positivist pursuits that predetermine the relevance of what can be viewed as ‘clean cut’ units of analysis (individual, group, organisational), the relations (connections or associations) between actors provided the signals used to trace and describe the characteristics embedding and embedded by curriculum change. In referring to these data, we are not so much evidencing our argument about the significance of materiality for thinking curriculum differently and the invisibility of the roles that material practices play in curriculum processes in institutional settings, as telling ‘data stories’ (Lather, 1991). In so doing, we construct accounts of the performance of curriculum and curriculum change as contrastive case examples. These examples are not taken to be representative of the experiences of other teachers involved in the studies, nor are they ‘realist’ windows onto the experience of teachers. Rather, they are vignettes selected to show the co-constitutive character of ‘the social’ and ‘the material’ when conceiving and enacting curriculum and the generative roles that material practices play in the curriculum change process.
Performing curriculum change (or not): Attending to ‘tangible knowledge’

St Joseph’s school story: ‘When we stalled, I actually wrote a scenario’

St Joseph’s is an Independent boys’ school in Melbourne, Australia. A problem-based curriculum is in place in Year 7.¹ At this school, patterns of curriculum activity were produced by formalised documentation, official management decision making activity, an awareness of government curriculum and research initiatives and expert knowledge theorising boys and schooling. In particular, it was a concern with gender differences in student learning that was prioritised in the formal ‘front-end’ curriculum planning process. As a school curriculum leader notes:

Problem Based Learning in Year 7 came out of a review of the year 7 and 8 curriculum in 2001. The objective was to engage the boys and manage the curriculum in a more sensible way. The Year 7s had more homework than the year 12s because of the sheer number of subjects they were doing. We added something up like 68 assessment tasks. The review team had senior people like the Assistant Principals in it, the ICT Head, Education Support and a couple of Year 7 teachers. It went out and looked at what was happening in other schools and decided to look at an integrated curriculum for Years 7 and 8. There was no difficulty selling this to staff once we moved it down to Year 7. Staff did not like the idea of Year 8 changing because they thought there would be too much work involved. That left 7 for the integrated changes.

In comparison with the selection of Problem Based Learning as a predetermined ‘given’ as part of curriculum change at this school, its presence came into play during what can be described as a tense negotiation process. As a member of the curriculum team comments:

We thought we were chuffing along quite nicely but the Year 7 ‘integrated thing’ was enormously problematic. It raised a lot of questions before it came in. There were significant difficulties because of territorial attitudes about ‘my’ content area and the time it would all take. Questions were all about what topics would be taught and who would do what but not about practice. Someone suggested Problem Based Learning and we were shown research about it. So, it became how could we do a problem based learning task?

Thus, in relation with a reluctance to let course content fall into the shadows of curriculum making, a concern with teacher workloads, a practitioner’s research knowledge and an implied need to ensure that disciplinary expertise would be co-present in the ‘integrated thing’, the notion of Problem Based Learning as a solution emerged. However, in the eyes of a middle-school

¹ At this school, Problem Based Learning was described as a teaching and learning approach involving the presentation of a challenging ‘real life’ problem to students. Supplied with insufficient information to solve this problem, students must identify what they need to know and find and use resources to get relevant information, make connections between pieces of information and the problem situation, and make these decisions after engaging in critical discussion and debate with class members.
coordinator, ‘individuals, teams, money and the writing of articles for educational publications all helped to get the ball rolling but it was planning and strategising at home that made the biggest contribution.’

Specifically, it was the writing activity and circulation of ‘bits’ of this that was identified by interview participants as the key to mobilising the curriculum change and external school participants, in relation with technology, that made the performance of problem based learning seemingly inexorable:

For a while we weren't getting anywhere. When we stalled, I actually wrote a scenario and handed out bits of the problem to Departments and subjects. After that the problem based learning had great energy and the evaluations from the students were terrific. We had outside people launch it and create the ambience with lighting and projections of the scenes. With all this, no one could really get away with not teaching it.

The ‘next attempt’ at problem based learning in this school was described by a curriculum leader as unsuccessful:

The second time it didn’t work because teachers thought all of the work had been done or new teachers did not get the concept. It hadn’t been unpacked to them. The curriculum team has to find a better way of doing this. We had a difficult year with it. Next year we will change the focus.

However, rather than looking for measures of success that are consistent with ideas of replication, it may be more practical to look for signs of practice dispersing as an indication of change being performed.

During a group interview, it was emphasised that:

When we have a change to manage, it is launched at a staff meeting. Then it goes to the faculty and then to specific year levels. It starts big and then breaks away and breaks away until you get three or four people that really get stuck into it.

This idea of practice ‘breaking away’ as it is performed can be further contemplated by considering the following description of how problem based learning was arranged and re-arranged at this school. As described by a teacher participating in a group interview:

We were supposed to have problem solving projects that go for between four and five weeks every year. We have other examples now. Say the Maths Department’s. It was supposed to be part of the project but now they have ended up doing something different. I wouldn’t call it the same thing. I don’t know what to call it. I prefer not to give it a label. It’s a fairly problem based approach.

Thus, in comparison to standardised practice in the form of a fixed Problem Based Learning approach (the Problem Based Learning approach, so to say), school planning, in relation with departmental preferences, co-present curriculum frameworks, and student learning activities, produced different patterns of curriculum activity that were not what they were ‘supposed to be’. At the conclusion of an interview with the school leader responsible for planning Problem Based Learning, it was noted that ‘there is an enormous ongoing issue about how to assess it’. Given this parting comment, it is likely
that negotiation and translation will continue as undercurrents characterising this curriculum practice, as new and old actors perform evolving versions of curriculum practice that is ‘fairly problem based’.

Notably, this ‘mutant’ Problem Based Learning activity did not sit outside the planned changes to curriculum. It was performed in a way that can be described as sitting differently with the formalised expectations for implementation. Rather, than co-existing in conflict, different curriculum practices and differences in the activity constituting such practices, were performed as negotiable moments. Moreover, it may be that conditions enabling such mutation provide the key to sustaining curriculum change that is relevant to the everyday work of practitioners. This is an empirical matter and requires further research. It is also however, a political and ethical matter. As Law (1997) has it, we need to make a space for multiple logics or voices in organisations: the character of organisational responsibility lies in non-coherence. This responsibility should, as a matter of principle, seek to speak in many voices and not in one.

Sasha’s story: ‘I love trying to get kids out of the classroom’

A secondary school teacher, Sasha specializes in Studies of Society and Environment. She is in her third year of teaching at a large, multi-campus, private, girls’ school. During her first year of teaching, she was ‘at a bush campus where it was more hands-on and not classroom-based’. Here, she was able to express her ‘enthusiasm for the outside’ and her will to ‘engage children in a different way’. At home in ‘the outside’, she reports having ‘a creative approach to teaching and relationships with students’, informed, in part, by her experience of learning to teach through problem based learning in her teacher training year:

I think this (creativity) was a natural tendency that I already had but I found PBL really fitting in with that. Those that I worked with in PBL had a similar mindset about how education needs to change and that we need to come up with new ways of teaching. I loved it, it affected me, and I’ve taken it on since.

As a curriculum approach, problem based learning ‘encouraged and promoted the idea of continually thinking and challenging the way of doing things in the classroom – to continually challenge and motivate the kids’. A strong association is made between certain spaces and certain curricula: ‘get[ting] outside’ and teaching through problem based learning affords pedagogic opportunities that can counter conventional curriculum:

Where I worked during first year I definitely had opportunities for using PBL as we were able to get outside, in the bush. One thing exciting here is that next year or the year after, the school is going to redesign the Year 9 course and have a theme that lasts the whole year, based on PBL. I’m not actually participating in the planning, it’s more the upper levels – senior staff. All the year levels are quite similar here. The curriculum is set for all classes and there are time constraints.

I … would like to be in an environment where I could use this technique (PBL), where the kids are really engaged and enthusiastic. It’s tangible and you get great outcomes. The kids love having ownership.
Currently caught up in a network of relations where curriculum is set and classroom-based, Sasha appears to mourn the loss of educational possibilities that presented in her first year of teaching ‘outside, in the bush’.

I love trying to get kids out of the classroom as much as possible. Last week we did oceans in Year 10 geography and looked at how fish travel in schools. And we went out into the yard and recreated that. I enjoy excursions.

I think that at times I get frustrated with things – the situation here – and I try to make small changes. You can gradually change things but not as much as you really want. I’m giving scenario work to Year 8 on eco-tourism and the kids have to design an economic tourism venture that’s based on an actual area. But it’s restricted here.

Curriculum change is the contingent effect of struggles and negotiations of a social and material kind. Contrary to the idea that it stands or falls according to the ways in which is taken up, enacted and owned by those who teach it, we suggest that other actors and agents such as spaces and time play a constitutive role. In Sasha’s case, a contrast is drawn between ‘the situation here’ (and now) where scenario work is ‘given’ to Year 8 and the unspoken ‘there’ (and then) where opportunities presented ‘for using PBL’. The restrictive environment of the classroom is contrasted with the expansive opportunities of ‘outside’. The expanded opportunities of the past are contrasted with the restricted opportunities of the present: ‘All the year levels are quite similar here. The curriculum is set for all classes and there are time constraints’. Time is assigned a decisive role in curriculum reform: ‘One thing exciting here is that next year or the year after, the school is going to redesign the Year 9 course and have a theme that lasts the whole year, based on PBL’.

Curriculum change, we propose, is a matter of building networks of heterogeneous materials – buildings, people, mindsets, courses, designs, scenarios, and so forth – which can move educational practices (learning) across space and time. The ‘mindset about how education needs to change’ that Sasha shared with fellow Education students and the opportunities provided by the academy to ‘do PBL’ in schools come together and effect just such a movement:

I suppose if I hadn’t done PBL at uni, I wouldn’t have enjoyed it as much. I loved it and it made so much sense. It was fantastic. I wish it had been for a whole year. The actual lectures and classes outside PBL didn’t prepare us for teaching. Talking about issues in the school and being there for two placements was good.

Conceiving curriculum change as network building activity allows the significance of seemingly background (f)actors to come into view. From Sasha’s perspective, what counts when attempting to effect school curriculum change is arrangements around space and time: ‘The school is going to redesign the Year 9 course and have a theme that lasts the whole year’.

*Sam’s story: ‘They came to a point where they ... said: “We need to know Genetics”’*
Sam is a Science teacher who has taught in secondary schools in the US and Australia. He speaks to his prior experience of teaching and some power/knowledge (Foucault, 1980) issues attaching to that teaching in this way:

I think that before I came to Australia – when I was teaching in the US – I was very much teaching content-based material. I did allow for my students to take control of a lot of the curriculum because I did have the freedom, but nonetheless I made sure that that content knowledge was part of my repertoire. I didn’t feel free to just let go and let the students take it wherever it goes.

Having things that are context-based has become very relevant to me in that I, myself, have asked the question of why do I have to do something and rarely have I received an answer that was located in the present. It was always something located in the future and I always found that problematic. I think it affected my learning.

A contrast is drawn between ‘teaching content-based material’ and ‘having things that are context-based’. Not unlike the picture drawn above of Sasha, curriculum is conceived in contrastive ways, or better perhaps, disparate discourses of curriculum circulate in Sam’s conceptions and practice of teaching, here, his recollection of student teaching:

When I walked into that classroom – it was a Genetics Year 10 class … there were a lot of students that were in that classroom that did not want to be (there). … It was so wonderful to see a 180 degree turn in those students who were resisting and, you know, hearing from the teacher towards the end of that, that some of those students who had never shown an interest in Science, and who had been poor students in the school, … produced the most wonderful work. They had a massive interest invested in it. To hear some of the students come back and say that they wanted to pursue something along the lines of the content of the PBL unit for the future just because it appeared to be so interesting to them and, you know, of course I could have done it with any topic and it makes me wonder whether if I had picked a different topic if those students would have wanted to go down that track because of the actual model rather than the content.

Seemingly, Sam has single-handedly brought about a curriculum change whereby ‘those students who were resisting … who had never shown an interest in Science … produced the most wonderful work’. How has this new network of learning been produced? Firstly, it is underwritten by the conceptual and methodological resources that Sam brings to his practice as a student teacher. In other words, pre-existing networks of knowledge about curriculum and practice in curriculum building are ‘imported’ from prior teaching experience in the US and used as a platform on which to build further knowledge and renew practice. Sam works a tension between ‘content’ and ‘process’ approaches to curriculum: ‘it makes me wonder whether if I had picked a different topic if those students would have wanted to go down that track because of the actual model rather than the content’. As is evident in the data below, he is aware of the limitations of the mainstream modernist school and its close connection with transmission- and subject-oriented curriculum. In effecting curriculum change, human awareness (or better perhaps, meta-curriculum cognition), however, is merely part of the picture. Various material
entities enter the story and, in association with human action, create new curriculum effects:

When I walked in I gave a very powerful set of stimulus materials and I also incorporated some semi real life environments where a ‘lawyer’ (a fellow student teacher) came in … and the students actually thought that it was a lawyer. They were going to form a bioethics committee to present to a legal firm and the legal firm was going to decide whether or not to sue the … Monash IVF (in vitro fertilization company) based on the feedback from the students. So, they felt they had to do something because these people were going to make a decision about whether or not to sue. And so at some point in the structure I made sure that they themselves would have to say ‘I need to know a bit about Genetics if I’m going to explain some of this stuff’. I didn’t directly tell them that they needed to know Genetics. They came to a point where they themselves said: ‘We need to know Genetics’. They, at times, asked me to give them a lesson. They came, four delegates from different groups came, and said: ‘Can you give us a lesson on DNA replication next week?’

Scaffolded by a disciplinary knowledge structure, ‘a powerful set of stimulus materials’ is used in relation with ‘some semi real life environments’, to create a curriculum where students ask the teacher ‘to give them a lesson’. Here, content and process approaches to curriculum are drawn together in a relational way. The character of this interconnection is complex as evidenced in Sam’s account of his pedagogic practice – specifically how questioning is seen and ‘done’:

From the teacher side of it, I can see how incredibly frustrating it would be to do something like this (PBL) for the first time. My biggest problem was making sure that I was very conscious of every question I responded to and I think one of the misconceptions about problem based learning is that you don’t answer questions. A lot of people think that you don’t answer questions but I don’t believe that. I believe that you answer the questions that the students ask in your head and then you respond with questions that are guiding but not leading. That’s how I see it and that’s one of the biggest changes I had to make in teaching.

It can be claimed that Sam acts deliberatively and improvisationally: he answers the questions that the students ask ‘in [his] head’ and creates another question that guides rather than leads. The process of answering questions ‘in your head’ suggests that curriculum content and process are co-extensive. Moreover, questions mediate or translate the efforts of teacher and students. Importantly, this is a two-way translation where each party is both acted upon and active.

‘Doing’ curriculum change is not a simple matter of applying curriculum knowledge acquired through institutionalised learning to professional practice. Rather, it is a complex and contingent matter of co-construction in which both the products of institutionalised learning (here, problem-based pedagogy) and professional practice are translated or transformed. Something of this complexity is captured in the following where Sam reflects on his professional growth and learning:

I can compare the past, and then I can compare the government girls’ school that I was in, and the semi-private co-ed school that I was in most recently. …
When I was teaching in the US, I was very much teaching content-based material. ... Now more ideally, at the girls’ school (when I was part of the PBL cohort) where there was a lot of freedom, and my supervisor gave me free reign within my teaching to do whatever I wanted pretty much, I had the opportunity to design a problem-based learning unit for Year 10s. And, in that, I think I came closest to my ideal of how I would like a problem-based learning unit to be. ... Now the reason I want to juxtapose that to the more recent experience is because in that school it was very strict and the teachers had very little freedom. The students had very little freedom and I actually saw how the problem-based learning model wouldn’t work unless I had certain requirements. I tried to make it softer, I tried not to go all the way, but a lot of the students resisted strongly to the model because they wanted to know content material, because they had been socialised for many years, and all the other teachers in the school that they were with that year were, of course, teaching in a traditional way.

Once conceived as a field of socio-material practices performed distributively, the extensive negotiations that go into the making of any curriculum and the complexity and contingency of achieving a curriculum network come into view. Going well beyond the classroom, student socialisation and school culture and tradition – ‘in that school it was very strict’ – must be taken into account. Curriculum is an ‘ecology of learning environments’ (Heath, 2000) that extends beyond any institutional site. In the case of Sam’s most recent school experience, problem-based curriculum emerges as a failed network. The heterogeneous elements that it associated could not hold. Other existing networks (school culture, student expectation) simply could not be displaced.

Thinking curriculum change differently – What’s at stake?

Studies of curriculum have moved well away from the narrowly institutional (we would say instrumental/technical-functional) conception of curriculum work as curriculum development (devising objectives, syllabi and so on) in the service of school reform. While we actively support this move, it may be time to reconsider the role of materiality in curriculum studies, or better perhaps, the role of material practice and tell different curriculum stories. As Green (Green, 2003, pp.137-8) comments in the context of conducting curriculum inquiry in Australia, ‘a widely acknowledged “crisis” in public education at the onset of a new century may well prove a stimulus to creative and radical re-imaginings of what curriculum and schooling must now become, in a new age of digital culture, global networks, hybrid identities and transnational imaginaries’. Certainly, thinking curriculum relationally allows for the reconfiguration of the either/or constructions of global and local and the recognition of their important elements of interconnection. It also affords opportunities for moving beyond the curriculum wars (Hanlon, 2004) towards understanding the ways in which disparate discourses of curriculum (curriculum as content and process; curriculum as cultural transmission and generic skills; curriculum as social practice and material practice) can work together.

The data stories described above tell tales of materiality dominating innovating activity in some situations. Regardless of whether we choose to describe the role played by things (e.g. scenarios, spaces, stimulus materials, questions) as dominant or less dominant, it is active in character. We cannot
simply assume that such agency is in service to a human world of curriculum work. Such an assumption risks narrowing the curriculum field in which policy makers, administrators, researchers, practitioners and students learn and work. Thinking curriculum in the same way, whereby the roles to be played by policy, teachers, students and other actors are predetermined, risks restricting the visibility for detecting ‘what counts’ in the performance of curriculum change.

In the contemporary Australian context, we are witnessing a range of curriculum interventions based on governmental and other political initiatives. Nationally, curriculum is indeed centre stage. How boundaries are brokered between centers of curriculum calculation (such as the Commonwealth Government’s Department of Education, Science and Training which is sponsoring the introduction of an Australian Certificate of Education) and the margins of curriculum (local schools, state jurisdictions) forms a topic for study in its own right. While affirming the importance of thinking curriculum spatially, and acknowledging the centralising impulses of government policy on curriculum in the political present (eg. debates around national curriculum in the schools sector; the introduction of training packages in the vocational education and training sector), we challenge the use of the metaphor ‘centre stage’. In the context of new times (Hall & Jacques, 1989), the notion of ‘curriculum centre stage’ may not provide enough purchase on the fluidity and mobility which now characterise knowledge relations, knowing and learning. The image of centre stage is too static and structural in times when concepts like rhizomatic knowledge (Deleuze & Guattari, 1983) and knowing in practice (Gherardi, 2006) are widely invoked.

Thinking curriculum change as de–centred network building activity has provided for the making of complex accounts of practice – detailed accounts of the ways in which human and non–human participants negotiated their participation in curriculum change. In 2003, the abstract to Howard Thomas’ conference paper proposed that ‘If schools are to successfully respond to externally originating curriculum policy and syllabus change, the change must be seen not as system-wide reform but as local curriculum reform’ (Thomas, 2003). In this conference paper it is proposed that the practice of local curriculum (reform) change is performed by a series of shifting relations between people and things, the impetus and momentum for which emerge in a texturing of official and unofficial, formal and informal, planned and improvised relations.

As Gherardi (2006, p.226) explains, practices (such as curriculum change) are mediated by and through the material world. ‘Objects, texts, people and money are intermediaries, and to ascribe intermediating work to them is to construct them as “active” subjects, not as simple instruments used by humans for their practical activities’ (ibid). Mediators ‘perform an active role in propagating practices and innovating them’ (ibid). In other words, mediators such as people (curriculum designers, curriculum users) and pedagogies (problem-based learning) circulate practices and change them in so doing. This circulation and change process could, with profit, be given explicit attention in any analyses we might make when theorising and organising
practices such as curriculum change. A focus beyond people affords attention to everything concerning curriculum that moves and leaves a trace (e.g. the Mathematics Department’s problem-based approach, Sasha’s ‘get[ting] outside, in the bush’, Sam’s questioning strategy). As we conceive it, it is a form of practical knowledge politics that may well be consequential for a range of curriculum participants.

End note

So, for curriculum practice it seems that there are many ‘centre stages’. Curriculum change involving problem based learning at the university and the schools researched did not take place on any exclusive curriculum stage (traditional, emerging or other). Disciplinary subject-based knowledge (‘We need to know Genetics’) dances with knowing in practice (‘They came to a point where they themselves said: “We need to know Genetics”’) as curriculum change comes into effect. Curriculum practice is rough in texture as official planning interacts with unofficial planning (and practices that ‘were supposed to be part of the project’ break away). In relation to re-reading and re-assessing the historical record, Green (2003, p.130) asked, ‘what would happen, I wonder, if more was made of notions of translation, of travelling theory, of différance?’ Deploying the ‘travelling theory’ of ANT:

We must conceive or imagine how Hermes flies and gets about when he carries messages from the gods – or how angels travel. And for this one must describe the spaces situated between things that are already marked out … Between has always struck me as a preposition of prime importance (Serres & Latour, 1995, p.64, original emphasis).

we have moved towards making this more. It is in the re-imagining of a curriculum stage, de–centred and performed differently, that the relevance of such speculation can be viewed as significant. More broadly, the ‘travelling theory’ of ANT provides resources for interrupting commonsense or customary ways of thinking and talking about curriculum and schooling.

Rather than the heroic performance of one, it is a field of gymnasts, performing multiple routines, in relation with multiple apparatus, their coaches and each other, that provides a vision for thinking curriculum differently. Grounded and in flight, more of the same will not be produced. For a local causal moment, a winning performance will emerge. But will we see it? Visibility must be good enough to detect and provide for multiple and varying curriculum performances if we are to ignite the innovative sparks that can take us to a place where educators are not experiencing more of the same but instead co–creating, co–performing, and indeed enjoying, being part of, a complicated network of curriculum activity.

References


