Tension as an enabling characteristic of innovating in schools

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Abstract

Purpose – The purpose of this paper is to argue that school innovation is a complex process requiring a detailed accounting of the relational activity characterising everyday innovating activity. It is further proposed that complex accounts of innovation practice that describe social factors only are insufficient.

Design/methodology/approach – Using a case study methodology, a focus on ideas of resistance and tension is used to explore the character of actual innovating experiences. Underpinned by assumptions of relationality and indicative of a poststructuralist and postmodern perspective, Actor-Network Theory is applied as an analytical tool to investigate the sociomaterial character of everyday enactments of innovation practice in four independent boys' schools in Australia.

Findings – Four data stories describe multiple patterns of innovating activity that cannot accurately be accounted for in terms of a general notion of resistance. The idea that tension enables innovation practice is proposed.

Research limitations/implications – Approaches to school innovation that assume difference should be smoothed out or there is a risk of obstructing its practical accomplishment.

Practical implications – This paper provides a case for school leaders to expect and cultivate conditions that enable innovative tension and the co-presence of multiple patterns of innovating activity.

Originality/value – In addition to critically viewing managerial notions of school innovation, this paper draws on the cross-disciplinary research to include materiality as an active agent shaping, as opposed to providing a context for, innovating in schools.

Keywords Innovation, Schools

Paper type Research paper

Introduction

In most organisations, the prospect of change is inevitable and educational settings are no exception. The desire to ensure that schools are sites for innovation, as opposed to sites offering "more of the same", remains a global one. For example, substantial funding commitments to ensuring educational institutions can meet this challenge have been made in Hong Kong (Quality Education Fund), the United Kingdom (Specialist Schools Trust), Singapore (Thinking Schools, Learning Nation Program) and Finland (LUMA Program). Further, through its research arm, the Centre for Educational Research and Innovation (CERI), the Organisation for Economic Development's (OECD) "Schooling for Tomorrow" project aims to develop an international toolbox for forward thinking, innovation and systems change. In Australia, major Federal government initiatives have been formulated to target innovating in relation to boys' education, including specific initiatives such as the "Spotlight on Boys" Education Project".

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Change is a major reason why organisations such as schools commit to innovation. Marsh (2000, p. 380) conceptualises and defines change broadly. "Change is a generic term which subsumes a whole family of concepts such as "innovation", "development" and "adoption"". Fullan (1993) also proposes change is multidimensional and above all, change involves a change in practice. The purpose of this paper is to illuminate how changes in innovation practice get accomplished and by doing so, unveil the nature of the complexity embedding actual practitioner experiences with innovating. The notion of tension as a characteristic of such complexity is focused on. Such a purpose is not underpinned by the assumption that the social world is waiting patiently to be researched so that what is to be known can be discovered. Rather, consistent with aspects of poststructuralism and postmodernism, innovation as an active and multiplicit process is investigated.

Like definitions of change, narrow conceptualisations of innovation have given way to broader, less clean cut notions. For example, in comparison to defining innovation as an end product of a technological or engineering process, more contemporary conceptualisations found in the cross disciplinary literature posit innovation as a learning process involving the circulation of innovative knowledge among people (e.g. Wenger *et al.*, 2002), as well as objects (e.g. Latour, 1986). In this paper, a relational, as opposed to singular, character for innovating has been assumed. Moreover, a prescriptive definition for innovation practice has not been applied. Rather, it has been assumed that everyday accomplishments of innovation work will vary and shift as will the perceptions of the practitioners performing this work.

In the first section of this paper, a research and policy context for school innovation is briefly outlined. Actor-Network Theory (ANT) is offered as a key analytical method for investigating the sociomaterial relational activity constituting everyday day enactments of innovation practice. Extracts from data stories (Lather, 1991) describing the actual innovating experiences of four schools are reported. John Law's (1997) idea that new ways of knowing practice include those that keep difference in tension (rather than seeking to reconcile or eliminate it) is used to describe the character of these experiences. "Innovative tension" is proposed as a condition that enables innovation practice in schools.

Re-orienting research

The idea of school innovation as elusive and problematic is not new. Typically being confined to a pre-determined unit of analysis, studies have investigated associations between innovation and individual attributes (cognition, perception and personality), group, organisational, social and cultural attributes. Variables predicting the presence, changes in, or nature of these attributes have been identified. For example, most of the studies investigating educational innovation published during the 1980s and 1990s, generally agreed that factors such as financing, time availability, initial training, leadership, participation and degree of support impacted on innovation success in schools (e.g. Blizard *et al.*, 1980; Cahill, 1994; Gordon, 1995; Hampel, 1991; Kao *et al.*, 1995; Krichevskii, 1998; Smyth and Van der Vegt, 1993). More recently published research directly highlights variations in cultural attributes of innovation in schools (e.g. Neuman and Bekerman, 2001; Olsen, 2002; Royal and Rossi, 1999; Tschannen-Moran, 2000; Van den Berg and Ros, 1999), with social and

organisational learning also being associated with innovation (e.g. Lave and Wenger, 1991; Senge, 1990; Argyris and Schön, 1996).

In addition to these general trends in the literature, the contributions of prominent educational and sociological researchers present a convincing case for innovation as a complex process in which non-linear change processes, collegiality, collaboration, participation, empowerment and situational specificities are relevant factors (Fullan, 1993, 1999, 2001; Hargreaves, 1991, 1997, 2005; Hargreaves and Bascia, 2000). However, as Cuban (1990, p. 3) notes that "the lack of rationality in proposing and implementing planned change" continues to be the dominant explanation researchers and policy makers use to explain the puzzle of school reform. The complexity of educational change in terms of gender politics can also not be ignored (Connell, 2005; Hubbard and Datnow, 2000).

Has managerialism helped? Thrupp's (2003, p. 170) questioning of how those leading and managing education in schools might "contest, rather than support, managerialism" largely goes unanswered in the published literature. Drawing on an anthropological analytical frame, Wolcott (2003) calls for a greater focus on how educators organise to cope with innovation and investigates this in terms of educator subcultures – technocrats instigating innovation and teachers implementing it. Rather than contesting, it is the "translation" of managerialism that this research seeks to explore. A role for planning, formality and organisational structure is not rejected. Rather, school innovation is approached from a poststructuralist and postmodern perspective that seeks to draw on the cross-disciplinary literature and provide textured accounts of actual innovating experiences – accounts that do not make a priori predictions about the character of the innovation process. In this paper, a specific focus on the concept of "resistance" is used to make this point.

Consistent with Michel Foucault's (1980) philosophical view that there are no relations of power without resistances, Lippitt, Watson and Bruce (1958, p. 72) note that "change forces and resistance forces are both operating in almost every situation". An exploration of the benefits of "resistance" for managing change is an underdeveloped line of inquiry for both researchers and school administrators because of the dominant assumption that resistance works against change. Such an assumption reflects the predominance of the Management literature as an influence on both theorising about, and the management practice of, the relation between resistance and innovation. For example, general models for overcoming resistance, such as Lewin's (1951) force field analysis and Kotter's (1979) six strategies have featured prominently in not only the research literature but also undergraduate and post graduate change management courses, as well as in adult training programs for practising managers. It is therefore not so surprising that, although entertained at times, a direct focus on the notion of resistance as an enabling factor for innovation in schools has been relatively absent.

In "principle", there has been recognition of resistance as something that can be used to support change in schools. For example, Willower (1963, p. 261) notes under certain circumstances resistance can "even be functional for the organisation". Less cautiously, Gitlin and Margonis (1995, p. 377) argue that there is "potential good sense embodied in teachers' resistance to innovation". More recently, Mabin *et al.* (2001) propose that managers can use resistance to hone change strategies and action plans, so as to enable successful and supported implementation. Resistance

has typically been defined as the expression of reservation to change (Smith, 2005). In practice, it may be that resistance is more than this. Compared to an expression of reservation, resistance may be a sign of (innovation) work in process – albeit a complicated, political one.

Michel Foucault (1980, p. 142) proposes that power relations "are all the more real and effective because they are formed right at the point where relations are exercised". The complexity of the work characterising innovation practice in schools can be explored by approaching innovation in schools from a line of inquiry tuned into the relational dynamics embedding and embedded by innovation practice. Massey's (1999) explanation of relational thinking as an attempt to recognise interconnections that construct any identity can be used to frame such an investigation. As opposed to a win or lose situation, approaching innovation as relational activity that is indeterminate in character provides for an investigation of innovation as a process in which multiple innovating experiences are practically accomplished in the everyday world of school work. As Bruno Latour (1988, p.161) notes, "nothing by itself is ordered or disordered, unique of multiple, homogenous or heterogeneous, fluid or inert, human or inhuman. Never by itself, but always by others."

A methodology for tuning into detail

The "performative turn" in the Science and Technology Studies (STS) literature views society as something that is performed by the efforts to define it, including the controversies that shape new associations that link or hold everyone together (Latour, 1986). There is a long history of teacher resistance to reform (Gitlan and Margonis, 1995) and a "performative turn" provides an approach for working with this. Such an approach is also consistent with practice based theorising and the corresponding assumption that "learning takes place in the flow of experience" and everyday organisational life in which activity such as innovation, communication, conflict and negotiation are co-present (Gherardi, 2000, p. 214). The more contemporary application of Actor-Network Theory (ANT) provides an analytical tool for tracing the character of innovating activity as it flows and shifts in specific situations.

As a research method, ANT has its roots in the field of (STS) and initially emerged through the work of Bruno Latour, John Law and Michel Callon. ANT denies that purely social or technical explanations for practice are possible and provides an "impartial" framework for analysing network effects in which neither social or technical factors are given priority explanatory status (Tatnall and Gilding, 1999). According to ANT notions of translation, human and non-human actors engage in a politically charged series of negotiations during which acceptance of a viewpoint is arrived at via persuasion and trade offs. However, as argued by Lee and Brown (1994) relations, negotiations and resistances may lie outside of the "classical" ANT researcher's accounts of the four moments of translation and the "centring" activity these moments perform (Callon, 1986).

By comparison, contemporary ANT notions consider this allegation by providing for the inclusion multiple patterns of activity (see Law, 1994 for a comprehensive discussion of modes of ordering). In contemporary (or performative) ANT applications, the notion of coherence in and around networks is abandoned so that the "noise" falling outside of dominant patterns of activity can be accounted for when describing network building activity. By doing so, performative ANT applications move away from the

idea of objects or (innovating) networks as single entities. It is such an application of ANT that is deemed particularly appropriate for providing detailed accounts of innovation practice that do not simplify and other difference.

Using a case study methodology, innovation practice in four schools was investigated as a complex web of network building effects. The research sites accessed in this study were four established (operating for over 80 years), religiously affiliated, Independent boys' schools with stable enrolment bases exceeding 800 students at each site. Students were largely from middle and upper socioeconomic, Australian families. The selection of these four schools as research sites reflected a purposeful sampling process as outlined in Patton (2002). Having publicly announced their commitment to innovating in the areas of literacy and student engagement, it was determined that the activity taking place in the selected research sites would be information rich.

Local practitioners identified and described what counted as innovating at each site during a series of key informant and group semi-structured interviews. Interview participants represented a cross–section of school leadership and teaching staff, new and long serving teachers. Apart from three women, the school leaders participating in the key informant interviews were men. Between 5-7 individual key informant interviews were conducted with members of the school management and executive teams at each site. These members of the school community were considered to be "key" informants, because (apart from the Principals) these school leaders were performing a dual role. They were members of the leadership team and classroom teachers. As such the "key" informants were in a position to provide detailed accounts of both the formal and informal character of innovating and the patterns of organising that shaped its practice in different domains of school life. A total of 20 key informant were conducted. Each interview lasted between 65 and 90 minutes. The teaching staff participating in the group interviews included a mix of Heads of Departments, special education co-ordinators, technology, junior, middle and senior school teachers. The tenure of employment ranged between 1 and 21 years, averaging approximately eight years at each site. In total, four group interviews involving a total of 22 participants were conducted. On average, each of the group interviews took 60 minutes.

During the interviews open-ended questions were used to prompt discussion. Examples of these questions included "How do people go about innovating here?", "How are innovating decisions made?", "What works and what does not work?", "What could/should be done differently?" and "What is needed to improve the way your school goes about innovating?". In the spirit of emergent qualitative interviews, conversations did not strictly follow the list of interview questions. Interviews were tape recorded and transcribed. Records and transcripts of interviews were analysed using qualitative methods of content analysis. After reading the transcripts a number of times, repeating themes were identified and read against one another within and across transcripts to search for similarities and differences. Additional data was obtained from observations of the physical environment and text material such as websites and school documentation (e.g. marketing materials and school policies). The vignettes that follow describe the relational intricacies characterising everyday enactments of innovation practice at each of the four schools researched.

The relations

Site 1: From conformance to performance

Situated comfortably from a marketing perspective, this school had high income earning, well educated families waiting on enrolment lists. Competitive school fees were not something that contributed to shaping this school's identity. Rather, a conservative school uniform, a traditional focus on academia and a strong Anglo-Saxon demographic presented quickly as visible signals of this school's way of being. In relation to the way it organised its business, a presence for planning characterised *part* of the activity constituting innovation practices.

This school had publicly signalled its commitment to innovating by constructing a placard citing its role as a "lighthouse" school in the Federal Government's "Spotlight on Boys Education Project", advertising website testimonials and incorporating innovation as an educational pillar in the school's a strategic plan. Accompanying such official activity was a State Government requirement to participate in an external audit of school practices. In the following account of curriculum, assessment and reporting change, it is apparent that innovating in these domains was not simply a matter of choosing whether or not to obstruct or comply with official actions:

> Now we have staff days and we have professional development sessions where we're given time to think about our programs, but a lot of it comes down to things like – we've got the audit coming this year and so, all of a sudden, we've got to hurry up and get our curriculum happening and our assessment procedures and so on, which is being done as part of strategic planning. (School 1, Interview 5)

Rather, applying ANT, tension in relation with external deadlines, internal planning requirements and staff that "all of a sudden" staff hurried up to perform changes in practice.

Similarly, in relation to what was commonly described as unsuccessful innovating in information technology, neither notions of a smooth changes process or one resulting in the rejection of change provide accurate descriptions of the actual innovation experience. In this instance, a formally planned accredited information technology teacher training course was far from embraced:

> We had a bit of a blow up with IT skills and staff. We were all originally required to achieve a certificate. We were a bit annoyed that some staff could already do these skills and others didn't need to learn them. It was a blanket "you need to do this". (School 1, Group Interview 1)

Inconsistency in management expectations, planning and teacher attitudes all played a part in shaping this experience with change. As a member of the school executive notes:

> We decided to introduce an IT staff training program improve student learning in the classroom. It's was series of modules relating to IT competence. Now some staff really got on board. But I, like the rest of the team, was surprised by just how many staff were scared of the program. We all agreed that if we were to have our time over again we would go about it differently. (School 1, Interview 2).

As opposed to ceasing, the IT staff training program can be viewed as being performed in a "different way". The carefully planned change was translated into what was locally described as "Best Practice Classrooms" as teachers in relation with the

physical environment negotiated how innovating in the domain of information technology would be performed:

> To meet the goal of helping teachers with this technology, we could bring it to them, so we have a data projector now and a video and a DVD and a computer network in these rooms as well as new furniture, nicer colours to brighten up because they were pretty dull – grey, cream type rooms – now we have a blue one and a yellow one and a green one and the boys have all commented when they've walked in – saying wow, yes, this is good. (School 1, Interview 5)

In this case, innovative tension, emerging from inconsistent viewpoints, expectations, preferences and actions, provided an opportunity for innovating differently. This process of re-shaping the way in which innovation was practice continued as new versions of "Best Practice Classrooms" emerged in the midst of leadership disappointment, staff reluctance and annoyance. As highlighted by a school leader, "we are just about to role out Best Practice Classroom, version four."

Similarly, a formal management attempt to innovate in the area of performance appraisal saw the introduction of a Peer Viewing process requiring each member of staff to view the teaching practice of a colleague at least three times a year. However, the performance of this requirement did not simply resist or adopt the practice. Staff participated abrasively in the process of Peer Viewing in ways that were not consistent with the planning objectives of management. In relation with pen, paper and doorways, staff negotiated the way in which Peer Viewing was performed:

> I thought it would have a non threatening opportunity for staff to observe a colleague and share some ideas. Instead, it actually ended up being avoided by many actually marking while they were meant to be observing – and some who might arrive and then had to leave half-way through a class. (Interview 4, School 1)

At this school innovating activity had not conformed to the implementation planning of school leaders. Rather, in relation with this planning, innovating effects were produced in patterns of activity that shifted as difference was performed and embedded by innovative tension. As noted by a school leader at the end of a key informant interview:

> I just think it's so important that . . . you've just got to keep on keeping on today, it's a reality. We've just got to keep on moving – you never ever stop . . . (Interview 2, School 1)

Site 2: Performing location

Resonating with Cuban's (1990, p. 10) proposition that "schools perform the social functions assigned by the reigning ideologies and elite classes", this school's master plan for structural and teaching innovation was not smoothly implemented. Parental concerns with social status played a key role in re-shaping what had been planned for innovation practice.

At this second school researched, the school executive had invested much time and money in the research and implementation of a separate school campus for boys in Year nine who were typically fifteen years of age. The executive's front-end planning met with strong opposition:

> Upper levels of management were concerned about boys being disengaged at Year nine. The upper levels of management spoke about this first and then it was spoken about at other

> levels in the school. The school decided to go with something that was not ideal. They decided to go with it because the purpose was so important. After this, there was about nine months involved in a process of selling it to the parent body. They were almost hostile about the idea of removing students as a whole and setting up in a location that would not be seen as an upper class education. (School 2, Interview 1)

Yet, this innovating activity was not extinguished. Rather, in ANT terms, it was translated. Differences in preferences for residential locations, a professional parent body, socioeconomic status in relation with residential postcodes and railway stations participated actively in locating the year nine campus to a new location, situated in "a delightful environment only two train stops from the school's historical site" (school publicity materials).

Embedded in class relations the identity of this innovation practice had been shaped in part by suburban postcodes and railway stations. The concept of a separate campus for this particular year level offering a curriculum emphasising experiential and incidental learning, the same teaching and administrative personnel, marketing publications and internal communications material continued to be key co-constituents in the enactment of this innovation practice, as did executive planning for the shift.

Site 3: Gender differences

It was not class but gender relations that had a visible presence in the much of the innovating activity in the third school researched. Hubbard and Datnow (2000, p. 116) propose that "male and female educators come to school as gendered human beings" and continue to emphasise the impact of such gender socialisation on the implementation of educational reform. In this case, it was not a matter of teachers performing gender politics to resist or adopt change. Rather, it was a matter of parents, school Boards, executives, the media and indeed students, negotiating a tense re-arrangement of the structural and cultural patterns that had for eighty-two years performed single sex (male) schooling.

This school had most recently launched a new educational model as part of the commitment to innovation. The objective was to implement a carefully planned move from single sex "boys only" education to "now enrolling boys and girls" by revising business plans and policies, configuring student numbers and gender balance and working with parents, staff, students and the entire school community to implement this "new stage in the school's development". In addition to the use of written publicity materials, this innovation was launched at a school assembly. A local community newspaper described this assembly as one involving the sound of cheering boys when the school announced it was breaking with 82 years of tradition. "There was two minutes of ecstatic cheering and clapping". The sense of smooth transmission in this assembly was not consistent with the actions of some parental groups from the site researched and neighbouring schools. In relation with these people, the print and broadcasting media, internet and local community personalities negotiated a different version of innovation practice. Some parents had established a "fighting fund" as part of a campaign against the change and a new parents association was formed after the announcement of the different schooling model.

In this innovating experience, a new, "unofficial", parents' association, financial accounts and public meeting spaces acted as carriers of difference and vehicles for keeping innovating tension active. The difference characterising this innovating

activity cannot be accounted for exclusively in terms of an attempt to veto the proposed innovation. Rather, differences characterising this tense state of affairs were not reconciled but left to play out in an ongoing process of arranging and re-arranging. The possibility of a merger with what had been a "sister" school continued to be negotiated formally and informally throughout the very public discussion of the change. Previous arrangements for sharing bus lines and senior classes and performing arts and musical productions with a neighbouring girls' school were cancelled, reinstated and then scaled down. More than 160 female students enrolled in the first six months following the announcement of the innovation. A school uniform, strikingly different to the uniform worn by students at the neighbouring girls' school, was introduced. The introduction of the innovative schooling model happened – albeit in patterns of fluid activity.

Site 4: Dispersing

Wolcott (2003) argues that too many educational researchers have been too attentive to innovations and too inattentive to how educators organise to cope with them. Cuban (1990, p.6) proposes that classrooms go largely unchanged and that, in spite of motion, "things predictably return to what they were at a prior time". At the fourth school researched, it seems that an attempt to implement a curriculum innovation did see things change and change differently as teachers negotiated the ways in which they would "cope".

Problem Based Learning (PBL), an approach to student learning that sees real world problems provide the impetus for learning concepts and skills, was perceived by senior management as a relatively attractive solution to their commitment to improving teaching practices in the middle years of schooling (years 5-9). As a member of the curriculum team commented:

> 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 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? (School 4, Interview 3)

In relation with research, existing innovations, defensive attitudes and time constraints, one innovation practice (integrated curriculum) had been (re)negotiated as a PBL initiative. However, the PBL experience was not experienced according to plan. Attempts to obtain momentum failed. It was intended by the Curriculum Team that teachers would collaboratively design the PBL task. Instead, the Director of Curriculum scoped the nature of task in detail and delegated responsibilities.

Enthusiastic celebrations accompanied the first PBL experience, as did an unexpected unsuccessful "next" experience:

> 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 PBL 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 second time it didn't work because teachers thought all of the work had been done or new teachers did n't get the concept. It hadn't been

> unpacked to them. We had a difficult year with it. Next year we will change the focus. (School 4, Interview 2)

Notably, it was not standardised practice in the form of a fixed PBL identity that saw this innovation performed in ongoing practice. Rather, difference was kept in play as the PBL experience was translated differently into variable and dispersed patterns of innovating activity:

> We have the PBL that goes for 4-5 weeks every year and we have other examples now. Say the Math's Department's. It was suppose to be part of the PBL but now they have ended doing something different. I wouldn't call it a PBL but I don't know what to call it. I prefer not to give it a label. It's a fairly problem based approach. It is more than a Math's question and it entertained the boys. (School 4, Interview 3)

At this school, a structure for the PBL innovation had been formally planned. In practice, it was accomplished as non-categorical patterns of activity, negotiated in the midst of executive planning and differing teaching preferences.

Discussion

Compared to a consistent, unified performance, the enactment of everyday innovation practice in the four schools researched can be described as a "play of difference" (Law, 1997, p. 10). As noted by Mulcahy (2004), space is not given, it is made or spun. In what can be conceptualised as a "tense innovation space", innovation practices were spun abrasively. As concluded by Willower (1963) more than forty years ago, there are no administrative recipes for educational change and innovation, instead, the first step for the school administrator is to simply provide the time for the thoughtful analysis. A management approach dominated by front end planning and back end implementation, or what Wolcott might describe as "technocrats", risks obstructing the innovative tension that enables practice to be performed differently.

The recasting of resistance as innovative tension is posited as a possible way forward. Preparing school leaders to expect, nurture and communicate innovating as a play of difference may alleviate some of the frustration accompany the work of innovation practitioners in schools. A search for a clean innovation focus seems misplaced. Innovating did not live as a complete or whole performance in the four schools researched. Rather, as a practical accomplishment, innovation involved a series of negotiations that shaped and re-shaped practice. Innovating was kept alive by difference and shifting relations.

Conclusion

In this paper, innovative tension has been conceptualised as the spark igniting actual experiences with innovating. It is argued that attempts to flatten or reconcile such tension risk obstructing the activity that accomplishes innovation in everyday practice. It is time for a new way to know school innovation. Resonating with John Law's idea of new ways of knowing, it is time to keep (innovating) difference in tension.

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