STRATEGIES AND OUTCOMES OF SCHOOL INNOVATION

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School innovation is important for three reasons. First, because the world is changing in dramatic fashion and this means that schools will need to do things differently to meet the demands of society in the future. Second, expectations for schools on the part of governments, parents, employers, teachers and students are now more demanding than ever. Third, the bar is being raised in terms of what a nation should achieve as a result of the unprecedented amount of data that compares the performance of one nation with another. There is no doubt that schools will look very different in 10, 20 or 30 years' time and a capacity for innovation is required at all levels of schools and school systems. However, this is not a call for an undisciplined approach to innovation. The idea of disciplined innovation is important and the purpose of this paper is to describe some strategies that will guide the development of such an approach.

The paper is organized in two parts. The first reports the findings of an international project on the transformation of schools. Transformation is defined as significant, systematic and sustained change that secures success for all students in all settings. A capacity for innovation was a key finding. The second reports the outcomes of a national project in Australia on the theme of the futures focused school in which, once again, a capacity for innovation was highlighted. The views of school leaders who have been successful in innovation are included. Indicators of a futures focused approach are provided and these suggest a set of strategies that can be adopted to secure optimum outcomes through innovation.

The importance of innovation in the transformation of schools

We recently completed a six-year project that explored the ways in which schools may be transformed. The first phase from 2004 to 2006 involved more than 4,000 school and school system leaders in 11 countries. It led to a hypothesis that transformation may be framed in terms of capital formation. Four kinds of capital were identified (intellectual, social, spiritual and financial).

Intellectual capital refers to the level of knowledge and skill of those who work in or for the school. Social capital refers to the strength of formal and informal partnerships and networks involving the school and all individuals, agencies, organizations and institutions that have the potential to support and be supported by the school. Spiritual capital refers to the strength of moral purpose and the degree of coherence among values, beliefs and attitudes about life and learning. For some schools, spiritual capital has a foundation in religion; in other schools, spiritual capital may refer to ethics and values shared by members of the school and its community. Financial capital refers to the money available to support the school. Governance is the process through which the school builds its intellectual, social, financial and spiritual capital and aligns them to achieve its goals. Figure 1 contains a model to frame the transformation of schools that highlights the importance of alignment of these five capacities.

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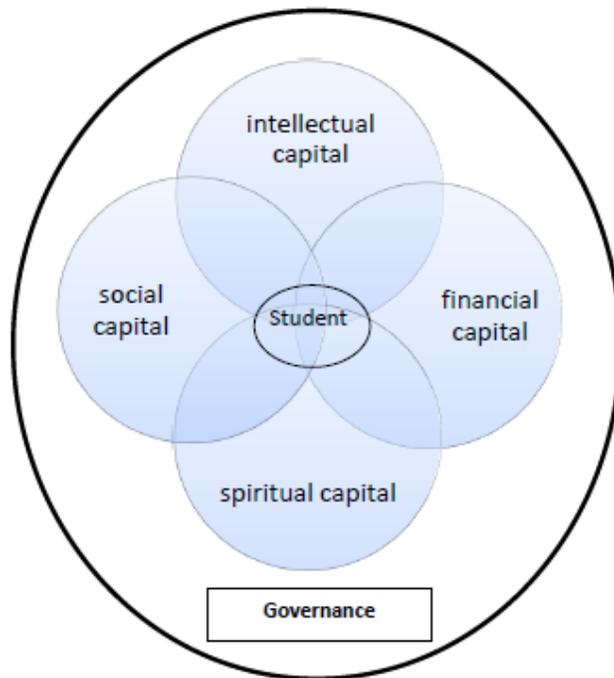
Figure 1: A model to frame the transformation of schools (Caldwell & Harris, 2008).

The second phase in 2007 and 2008 tested the hypothesis in focused case studies in secondary schools in Australia, China, England, Finland, Wales and the United States. An innovative view of leadership as capital formation emerged, suggesting that leaders in high-performing schools were engaged in building the four kinds of capital and aligning them through good governance to achieve school goals. A total of 50 indicators – 10 for each form of capital and of governance – were evident in the majority of schools.

The findings of the project were reported by Caldwell and Harris (2008) with findings in each country reported separately (Douglas & Harris, 2008 for Australia; Egan, 2008 for Wales; Goodfellow & Walton, 2008 for England; Saarivirta, 2008 for Finland; Zhao et al., 2008a for China; and Zhao et al., 2008b for the United States). The relevance of the findings for China was highlighted by Harris, Zhao & Caldwell (2009).

A particular finding was that a capacity for innovation emerged as a key indicator of intellectual capital. Indicators 9 and 10 in the list below are concerned with innovation and related strategies were evident in the majority of schools in the six-country study that formed the second phase of the project.

1. The staff allocated to or selected by the school are at the forefront of knowledge and skill in required disciplines and pedagogies
2. The school identifies and implements outstanding practice observed in or reported by other schools
3. The school has built a substantial, systematic and sustained capacity for acquiring and sharing professional knowledge

4. Outstanding professional practice is recognized and rewarded
5. The school supports a comprehensive and coherent plan for the professional development of all staff that reflects its needs and priorities
6. When necessary, the school outsources to augment the professional talents of its staff
7. The school participates in networks with other schools and individuals, organizations, institutions and agencies, in education and other fields, to share knowledge, solve problems or pool resources
8. The school ensures that adequate funds are set aside in the budget to support the acquisition and dissemination of professional knowledge
9. The school provides opportunities for staff to innovate in their professional practice
10. The school supports a 'no-blame' culture which accepts that innovations often fail (Caldwell & Harris, 2008, p. 40)

Innovation is central to sustainable success

Powerful insights into the role of innovation if a school is to sustain its success were gathered in a national project in Australia in 2009 and 2010. The Futures Focused School Project was commissioned by Teaching Australia (now the Australian Institute for Teaching and School Leadership). It was also conducted in two phases. The first was the organisation and presentation of 18 two-day workshops for 500 leaders in 300 schools in every state and territory in Australia. These were designed to help build a capacity for long-term planning. The second phase, building on the first, was to write a book and prepare a field guide for all schools so that they could achieve such an outcome. Findings from the workshops were incorporated along with the views of experts on possible futures in society and in schools.

The book and field guide are contained in a package published by Education Services Australia for the Australian Institute for Teaching and School Leadership (Caldwell & Loader, 2010). The field guide contains 36 activities to be used in whole or in part by schools that seek to be futures focused. Some of the key findings and illustrations of outstanding practice are contained in the following pages. The views of school leaders and international experts are cited. These people contributed to the project in videotaped interviews and excerpts from the transcripts are cited by page number in the package. The importance of innovation is evident throughout.

What is a futures focused school?

A futures focused school 'sees ahead' but it also:

- 'sees behind', honouring and extending the school's accomplishments in the past
- 'sees above' in the sense of understanding the policy context and the environment in which the school exists
- 'sees below', demonstrating a deep understanding of the needs, interests, motivations and aspirations of both students and staff
- 'sees beside' which involves networking professional knowledge to take account of best practice in other schools which are in similar settings
- 'sees beyond' by seeking out best practice in other nations and in fields other than education
- 'sees it through' by being consistent and persistent (Caldwell & Loader, 2010, p. 20)

The metaphor of 'sensing' is also helpful, given that 'seeing' refers to what is already in place or is projected. A futures focused school is alert to signals in its internal and external environment; the factors that may influence what occurs in the future and that may therefore subsequently be 'seen'. These signals may be strong or weak and a high level of sensitivity is required to distinguish amongst them.

Erica McWilliam is Adjunct Professor, ARC Centre of Excellence for Creative Industries and Innovation, Queensland University of Technology. Erica describes a futures focused school in terms of the issues it should address in its program. She builds a case for the core business of schools in the 21st century being 'creative capacity building':

> I think a future focus school, in 21st century terms, is going to have to be increasingly – and is – focused on the more intractable problems that we haven't been able to deal with in the 20th century.
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> I think that in the 20th century, we got very good at teaching routine habits of thinking and routine ways of working, to solve routine problems. In the 21st century, a lot of the routine problems have been solved. What we've left for young people are the intractable problems – problems of water quality, problems of climate change, shantytowns, AIDS, and so on. We have left really tough problems of the sort that require something else other than routine thinking and routine solutions.
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> So it seems to me now that the future oriented school doesn't jettison literacy and numeracy, but they understand that literacy and numeracy will not of themselves be enough for the sort of work that's going to be needed to solve the very intractable problems. So to me, creative capacity building will be the fundamental core business of schools in the 21st century. (Cited in Caldwell & Loader, 2010, p. 24)

Indicators of a futures focused school

As in the first project described in this paper, indicators were developed for a futures focused school. Indicator 9 in the list below is explicitly related to innovation.

1. The school has clearly defined values and beliefs about life and learning that are used to balance past, present and future in the formulation of its plans
2. There is a capacity and willingness for staff and other stakeholders to keep abreast of trends and issues, threats and opportunities in the wider environment, nationally and internationally
3. There is a capacity and willingness for staff to respond to threats and opportunities anticipating their impact on education generally and on the school in particular
4. There are structures and processes which enable the school to gather evidence and other intelligence, set priorities and formulate strategies which take account of likely and / or preferred futures
5. School leaders ensure that the attention of the school's community is focused on matters of strategic importance, sharing their knowledge about these matters with the school's community, and encouraging other leaders to do the same in their areas of interest
6. The school has an ongoing structured review process that facilitates the monitoring of the implementation of strategies as well as emerging strategic issues in the wider environment

7. The school strategically positions itself for enduring success by skillfully balancing strategies that have succeeded over time with new strategies that take account of changing circumstances
8. Ongoing informal conversations about future possibilities are encouraged as much as the more formal processes of strategic planning
9. The school invests in innovation so that it becomes an 'incubator' of new ideas and new practices
10. There is recognition that convergence of ideas is not always possible or even desirable, but every effort is made to develop a shared understanding of what is important to create and sustain success (Caldwell & Loader, 2010, p. 30)

Strategies for innovation

Tony Mackay, Chair of the Australian Institute for Teaching and School Leadership (AITSL), Deputy Chair of the Australian Curriculum, Assessment and Reporting Authority (ACARA) and Chair of the London-based Innovation Unit, is an impeccable authority on the topic of innovation. He considers it to be the 'defining driving force' in schooling:

> You hope that with appropriate research and development you're able to feel more confident about what works; and then after establishing that, you move to scale-up. Now at that point, I do think you need to get into experimentation. You do need to incubate; you do need to apply serious resources to that work. I'm only saying something which every other industry of course is engaged in constantly, and devotes huge R and D resources to. So if you ask the question 'should we innovate' – absolutely? (Cited in Caldwell & Loader, 2010, p. 87)

Rufus Black, former principal and partner at McKinsey & Company (Australia), now at the University of Melbourne, sees no reason why schools should not adopt similar approaches to what may be found in the business world where three successful approaches may be readily adapted to schools. His starting point was a conviction that futures focused schools are innovative places.

> The first is that those who do it well very often have a 'portfolio' approach. They don't have a central planning approach; they don't say 'That is the sure-fire winner'. Now some do, and they make a big bet; but those who do it well actually say, 'Let's try a range of things' and be willing to experiment; and they will keep 'feeding' and where appropriate expanding those that work, and those that don't, will let them go on a bit, and then stop them.

> I think we need in schools, and in our school system, a much greater 'port-folio' way, so that you may take just a single class and do something very different with it. You may take a year and do something very different with it. Or you may take a slice of the school and do something different.

> The second is that a lot of innovation happens because people are connecting the previously unconnected. And that's when new thinking happens: when different ideas are bumping into each other and as many people as possible are involved in the process. There is a certain kind of innovation which happens because you set aside people to do some research and some thinking. That produces one type of advance. The other type is when you're inviting everybody to be thinking.

And the final piece is culture. I think the organizations that are most successful in innovating are those that have an open culture – a non-hierarchical trusting open culture – where ideas can flow freely up, down, and across. If there is a group who are excited about an idea, they can be brought together as a team to rapidly pursue it and make it happen. The structures don't get in the way of being able to move quickly on ideas with people who are passionate about them. And for that to be the case, you need truly trust-based cultures that can work with whatever formal structure you've got. (Cited in Caldwell & loader, 2010, pp. 87-8)

The practices described by Black should sit well in most school settings since none necessarily call for whole-of-school efforts at innovation and there are adequate safeguards when an innovative effort does not work out. A rigid hierarchically organized structure is clearly a barrier and, in the long run, may limit a school's capacity to sustain its success. The trusting culture is critical.

'Best practice' or 'next practice'?

Schools and school systems have been encouraged to search out and adopt 'best practice'. It seems so straightforward to advocate such an approach in respect to, say, literacy or class size or middle schooling or merit pay or facilities design. After all, considering class size, it seems to make sense that the smaller the class the more individual attention can be given to students and the more manageable the already heavy workload of teachers. Some schools advertise their small class sizes and parents respond because it is assumed that small classes are 'best practice'. Yet evidence stubbornly fails to show the benefits once classes fall below about 25. While controlled experiments to determine an evidence base for good practice should be encouraged, the fact remains that a range of different approaches seem to work well in different situations. The likely explanation is that practice in any classroom in any school is really a combination of approaches on many dimensions that are being implemented with a high degree of professionalism by staff who are able to make different mixes work well. While every effort should be made to replicate the kind of clinical trials that are common in medicine we cannot, either practically or ethically, isolate and control for clearly defined 'treatments'.

These shortcomings may explain in part the current interest in 'next practice'. One of the most frequently cited experts on leadership and change is CK Prahalad. He preferred the concept of 'next practice' to 'best practice'. He identified three characteristics of 'next practice': 'firstly it is future-oriented; secondly, no single institution or company is an exemplar of everything that you think will happen; and thirdly, next practice is about amplifying weak signals, connecting the dots. Next practice is disciplined imagination' (Prahalad cited by Hannon, 2007, p. 2). This summarizes very neatly the limitations of 'best practice' and the merits of 'next practice'.

System-wide initiatives to identify 'next practice' are important and individual schools would benefit from participating in these. The Innovation Unit has developed a Next Practice Innovation Model:

- Stimulating (analyze need, scan the horizon, seek innovators, and generate creative options) – system-wide reflection and intervention
- Incubating (support the leadership of change, broker relationships and alliances, create communities of practice, and invoke power to innovate) – local level action

- Accelerating (exploit knowledge management techniques, synthesize evaluation and research, accelerate diffusion with national agencies) – system learning (Hannon, 2007, p. 12)

Tony Mackay suggests that 'next practice' is concerned with 'disciplined innovation' over three to five years: 'I think the innovation timeframe, the next practice timeframe, has got to be three to five years. Now we've been talking about the future of schooling; well that's actually a 10, 15, 20 year timeframe' (cited in Caldwell & Loader, 2010, p. 89).

Barbara Stone is principal of MLC Sydney, a private school that was selected in the Futures Focused School Project to illustrate outstanding practice. She described how a long-term perspective has been adopted, expanding the timeframe of planning in previous years. She addressed the issue of innovation by posing the question: 'what's the next big thing?'

> I find it's almost amazing to think that when we first did our 'Let's think about what the future might be' in 1995, we saw the future so clearly in terms of how instrumental, how absolutely important the technology would be. Our current 'next big thing' has been about global social responsibility. We saw that coming well before we had the tsunami and the recession; it is going to be so tangible in people's lives. So it's timely that our next review will be next year [2009] when we will be collectively – as many of us as we can – with our antenna, out there saying, 'So what's the next best thing? What's the next big thing that's going to really come along?' (Cited in Caldwell & Loader, 2010, p. 89)

An excellent illustration of how context is important in describing 'next practice' or 'best practice' is presented by Finland which is, as is almost universally known, one of the top-performing nations on international tests of student achievement (PISA). We tend to look at 'normal practice' in Finland for inspiration in our search for 'best practice'. Adaptation thereof becomes 'next practice' or 'innovation' in other settings. For example, one of the factors explaining Finland's success is that schools do not allow students to fall behind for more than two days. A cadre of specialist teachers are employed to provide small group or one-on-one support as soon as a teacher identifies a student who is having difficulty. Some of these specialists work at more than one school. This is what is meant by 'special education' in Finland. Developing capacity to do this well calls for rigorous initial teacher education. As is also well known, every beginning teacher must now have a master's degree. World-wide these capacities may be 'best practice'.

Tony Mackay knows the Finland scene well through his involvement in OECD's Schooling for Tomorrow Project and he explained what is occurring in Finland, and it may come as a surprise:

> I was recently at a conference in Helsinki. It was the final conference of the Schooling for Tomorrow Project, after six years of work internationally, with about 20 countries involved. Interesting, of course, that it was being hosted by Finland, the highest-performing school system in the globe at the moment. Now on stage with the Director General of the school system for Finland, on his left-hand side, was the immediate past Prime Minister of Finland, and on his right-hand side was the head of research for Nokia. And I asked him a question: 'You are the highest-performing system in the world – what next?' And he said, "Seriously, what next is, we have got to innovate. This is not the place that we need to be now. Clearly, on a given set of metrics, we are doing

exceptionally well – but how did we get here? We got here because we determined that we had to become a more innovative culture. That in fact, we had to ensure that education was the driving force for economic and social change, for higher levels of productivity, for our capacity to be successful both within Europe and globally. Now if we've arrived at a point where we've been able to achieve that, surely we need to be investing ahead of the curve. And clearly, the nature of learning in a learning-intensive society is going to be even more demanding, more complex – it's going to require more innovation than ever before. We need to invest in that right now'. (Cited in Caldwell & Loader, 2010, p. 90)

So Finland is searching for its 'next practice'! The same challenge faces schools and school systems in other countries that are currently performing well.

Scanning

A key issue is how schools gather ideas about the particular kinds of innovation they will focus on in designing and implementing 'next practice'.

For schools in general, some aspects of 'next practice' will emerge from the school's own approaches to stimulating and incubating, and these will be accelerated to the achievement of 'next practice'. Loader argues that good leaders stumble on 'next practice' while pursuing a major educational objective (Loader, 1997). As important as it is to be aware of what other professionals are doing, the first priority for school leaders is to understand their own school and its needs and to pursue new solutions through initiative and enterprise.

Other possibilities will come from 'scanning the horizon', consistent with the description of the futures focused school in which the metaphor of 'seeing' was adopted: seeing ahead, seeing behind, seeing above, seeing below, seeing beyond and seeing it through.

While schools can build their own capacities to engage in 'seeing', entities such as The Innovation Unit in England have an important role to play, especially where national or system-wide policies involving major change have been adopted. The Innovation Unit, for example, focused on four strands in its first year, and reported the outcomes (Innovation Unit, 2008): system leadership (in partnership with the National College for School Leadership), community engagement in learning (in partnership with the Training and Development Agency), resourcing personalisation (in partnership with the Specialist Schools and Academies Trust) and parent engagement.

The Innovation Unit's Valerie Hannon understands the challenges faced by schools in such an approach. She described the 'fostering of an outward-facing disposition':

How can busy, performance-driven practitioners become aware of approaches and techniques which are emerging in other sectors – private and voluntary, as well as across public services more widely? It is enormously difficult in practice to be fully alert to developments and methods outside one's 'zone of operations' (and sometimes even within it) which offer improvement potential. Some school leaders do manage to scan other horizons for ideas with transfer potential. How far can this be done on their behalf, to shortcut the investment in time, and also optimize the scope for adaptation? (Hannon, 2007, p. 8)

Managing 'next practice'

A key issue is the extent to which leaders at a school should control what occurs. Erica McWilliam has this to say about the dangers of micro-management:

> Now I think that we've had an era where we've felt that if we stand back and let young people express themselves, we'll get wonderful things; and I know a lot of people who still think, well, the best thing to do is just leave the kids alone and let them go. Now I actually don't think that's where I would sit. It seems to me we've got to learn more about how we regulate well – how do we macro-manage? I don't believe that micro-managing is going to produce the self-managing learner that we want; but I also don't believe that the *laissez-faire* classroom, and the hands-off, and 'leave them alone', and discovery method will do it either. (Cited in Caldwell & Loader, 2010, p. 93)

There are dilemmas to be addressed in achieving the balance described by McWilliam. For example, how do schools respond to a situation where young people take the use of technology into their own hands – as they can – and use it to be creative in ways that complement what can be achieved in the traditional classroom. She referred to developments along these lines in the United States:

> I think it's worth realizing that in the United States at the moment, 93 percent of young people aged 12 to 17 are active online users; and of that 93 percent, 64 percent are actively producing cultural products. So they are used to hands-on, minds-on, plugged in. They produce their own music; they produce their own websites – it is a generation of young people and the school that produces them will know that young people are not simply there to listen, and listen to content, and to regurgitate content. They will not be looking to young people to simply be memory banks. Computers will do the memorizing. (Cited in Caldwell & Loader, 2010, p. 94)

Schools are responding to the challenge in many ways. There is probably no such thing as 'best practice' under these circumstances but schools can do some good 'scanning' to find out what is working to assist the design of their own 'next practice'. In doing so they will have some robust debates with those on staff who are uncomfortable, perhaps justifiably, with McWilliam's statement that 'computers will do the memorizing'.

Conclusion

A school that seeks to create its future should be engaged in innovation, especially 'disciplined innovation'. The situation is not quite so clear as far as 'best practice' and 'next practice' are concerned. This is partly due to terminology and context. What is 'normal practice' in one setting may be held out as 'best practice' in another, thereby causing it to be proposed as 'next practice' for all schools in the second setting. This is illustrated well in the case of countries seeking to emulate what has been achieved in Finland. Except for obvious and relatively clear-cut developments such as the adoption of new technologies, I am wary of policies that seek to identify 'next practice' with a view to all schools then adopting that practice. The mix and match of innovations that work in different settings suggests that it is more productive to design 'next practice' on a school-by-school basis after skilful scanning. This assumes that schools have a relatively high degree of autonomy and, fortunately, there is powerful evidence of a balance of autonomy, accountability and choice in high-performing school systems around the world (Schütz, Wößmann & West, 2007; Wößmann, Lüdemann, Schütz, & West, (2007).

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