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# The power of networks to transform education: An international perspective

Brian J Caldwell

The power of networks to transform education:  
An international perspective  
January 2009

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**Mission of the Specialist Schools and Academies Trust**

The Specialist Schools and Academies Trust works to give practical support to the transformation of secondary education in England by building and enabling a world-class network of innovative, high performing secondary schools in partnership with business and the wider community.

**THIS PUBLICATION**

**Audience**

The publication is written primarily for leaders in government and their departments of education but will also be of interest to school and school system leaders in all sectors of education.

**Aim**

The purpose of this publication is to show how networks in their several forms are transforming education.

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# Forward

Information technology makes distance, geography and time irrelevant. iNet is an effective vehicle for school leaders, policy-makers, and students to debate with each other and define schooling for the 21st century. Brian Caldwell's paper highlights the opportunities and challenges ahead.

Sue Williamson

Director – Leadership and Innovation

December 2008

Headteachers in England are experienced and adept networkers. The specialist schools networks in England give school leaders the opportunity to lead the educational agenda and to share effective practice. The success of specialist schools in England attracted interest from overseas, and headteachers in England also wanted to draw on the best practice internationally. This led the SSAT to develop iNet (international networking for educational transformation).

iNet's mission is to create strong and innovative networks of schools that have achieved or have committed themselves to achieving systematic, significant and sustained change that ensures outstanding outcomes for all students in all settings. There are now over 5,000 schools affiliated to iNet from 35 countries. For many collaborative working is new and challenging.

The first iNet network was developed in Victoria, Australia in 2004. Headteachers in England were very keen to investigate how schools in Victoria were using the new technologies to develop teaching and learning. The network has developed rapidly and iNet Australia now has links with networks in Chile, China, South Africa and Wales. Mauritius joined iNet in 2007. Initially new to collaborative working it will host the G100 conference in 2009, where delegates from 15 nations will discuss the globalisation of learning.

# Introduction

The purpose of this paper is to show how networks in their several forms are making a contribution to the transformation of education. Transformation is significant, systematic and sustained change that secures success for all students in all settings. These forms are often complementary and include:

- Schools and school systems working in networks – local, national and international – to share knowledge, address issues of common concern, pool resources or achieve other purposes of mutual benefit to participants.
- New structural arrangements in systems of education in which top-down and bottom-up lines of authority, responsibility and accountability are complemented (not replaced) by lateral networking.
- The use of computers and other forms of information and communications technology (ICT) to drive or support learning and teaching and to disseminate information to key stakeholders, often in real time.

The four parts of this paper:

- describe these forms of networks, giving particular attention to recent interest in their formation
- give examples of their design and implementation
- summarise evidence of impact on learning
- identify dilemmas and directions for those seeking to achieve the transformation of schools.

Examples are drawn from a number of nations and regions including Australia, South-East and East Asia, the UK and the USA. It is concluded that networking has reached a ‘tipping point’ and that different organisational forms – lateral networking within vertical lines of authority, responsibility and accountability – are complementary and mutually reinforcing. Effective implementation can accelerate the process of transformation.

The paper is written primarily for leaders in government and their departments of education but will also be of interest to school and school system leaders.

# 1 Networks and networking

## Definition

A network is an association – formal or informal, temporary or permanent, mandatory or voluntary – between individuals, organisations, agencies, institutions or other enterprises, through which participants share knowledge, address issues of common concern, pool resources or achieve other purposes of mutual benefit.

## Typology of networks and networking

Van Aalst's definition of networking is a helpful starting point in describing the forms networks may take. 'The term "networking" refers to the systematic establishment and use (management) of internal and external links (communication, interaction and coordination) between people, teams or organisations ("nodes") in order to improve performance' (van Aalst, 2003, p33).

According to van Aalst (2003, pp36–37) there are three types of networks that may operate alone or in combination:

- A 'community of practice', which involves the relatively informal sharing of knowledge within a network of professionals. The knowledge may or may not be codified and much of the activity within the network involves the identification of who has the knowledge to address a particular issue.

- A 'networked organisation', which involves a more or less formal relationship between autonomous organisations with the intention of adding value to each. The chief advantage is that each partner can remain autonomous yet build its capacity to achieve its mission through synergies achieved with other partners.
- A 'virtual community', which may take many forms, the common element being the medium of ICT.

Smith and Wohlstetter (2001, p501) described four types of networks in education: professional networks of educators operating largely on an informal and voluntary basis, policy issue networks that pursue a single issue or a small set of issues on a related theme, networks that link different schools to an external partner in the expectation that benefits will flow to participating schools, and affiliation networks where schools are related to one another because of their membership of the same organisation. The more formal of these is the affiliation network described by Smith and Wohlstetter in the following terms:

'In this type of network, people representing different organisations can work together to solve a problem or issue of mutual concern that is too large for any one organisation to handle on its own. The norms associated with professional networks serve as the foundation on which network structures are built, but the focus is on inter-organisational collaboration rather than on professional advancement' (Smith and Wohlstetter, 2001, p501).

Benefits to schools through participation in affiliation networks (within a system or across national and international systems) can include the identification and sharing of good practice in different pedagogies or different aspects of curriculum; approaches to supporting students with special education needs; or initiatives in professional practice such as building the capacity of teachers and their leaders to engage in transformation. An example of an international affiliation network is iNet, the international arm of

the Specialist Schools and Academies Trust (SSAT). The SSAT network involves more than 5,000 schools from more than 30 countries around the world.

Malcolm Groves (2008) in *Regenerating schools* cites the work of Harvard University's Karen Stephenson to stress that hierarchies should not be replaced by networks. 'Rather, she sees organisations as a sort of double-helix system, with hierarchy and networks perpetually influencing each other, ideally co-evolving over time to become more effective.' Stephenson describes six types of networks, with the purpose of each encapsulated in a key question:

- The work network: with whom do you exchange information as part of your daily work routines?
- The social network: with whom do you 'check in', inside and outside work, to find out what is going on?
- The innovation network: with whom do you collaborate or kick around new ideas?
- The expert knowledge network: to whom do you turn for expertise or advice?
- The career guidance or strategic network: to whom do you go for advice about the future?
- The learning network: who do you work with to improve existing processes or methods?

(Adapted from Groves, 2008, p88)

## Recent interest in networks

Networks have existed throughout recorded history, that is, for as long as there has been a need for human beings to form relationships, engage in purposeful activity, and seek support from one another. Expressed simply, 'networks and networking are as old as the human race' (Hargreaves, 2008a, p29).

However, in recent times particular attention has been paid to networks as an organisational form. While they are often

contrasted with other organisational forms, especially hierarchies of authorities, responsibilities and accountabilities, they are not incompatible or mutually exclusive of these others. As we shall see, there is evidence that the creation of networks within and across levels of a hierarchy may increase the effectiveness of the hierarchy in a variety of ways.

There are several reasons for recent interest in networks and networking. These operate singly or in combination, and are classified below in terms of flexibility and responsiveness, innovation and technology, reform and regeneration, and redirection and a futures focus.

### **Flexibility and responsiveness**

The creation of networks is consistent with a view emerging in some countries that there is a need for greater flexibility in traditional public service organisations. Sir Michael Barber is Expert Partner in the Global Public Sector Practice of McKinsey & Company and former head of the Prime Minister's Delivery Unit in the United Kingdom. He has argued: 'The era of the large, slow moving, steady, respected, bureaucratic public services, however good by earlier standards, is over. In the new era, public services will need to be capable of rapid change, involved in partnerships with the business sector, publicly accountable for the services they deliver, open to diversity, seeking out world class benchmarks, and constantly learning' (Barber, 2003, p115).

Flexibility of a kind that Barber had in mind is illustrated by Bentley and Wilsdon (2004), writing for the London-based thinktank Demos, who suggested that an 'adaptive state' is required to achieve the best approaches to service delivery:

'We need new systems capable of continuously reconfiguring themselves to create new sources of public value. This means interactively linking the different layers and functions of governance, not searching for a static blueprint that predefines their relative weight. The central question is not how we can

achieve precisely the right balance between different layers – central, regional and local – or between different sectors – public, private and voluntary. Instead, we need to ask, “How can the system as a whole become more than the sum of its parts?” (Bentley and Wilsdon, 2004, p16).

### **Innovation and technology**

The notion that there is a ‘tipping point’ in social change was popularised by Malcolm Gladwell (2001) in *The tipping point*. He suggested there were certain rules to explain the phenomenon that ‘ideas and products and messages and behaviours spread just like viruses do’ (p7). The tipping point is: ‘that one dramatic moment in an epidemic when everything can change all at once’ (p9). David Hargreaves (2003) employed the same imagery in *Education epidemic* to explain how innovative change on the scale of an epidemic may be created in schools. He saw these as enhancing rather than replacing traditional approaches and proposed knowledge-based networks:

‘Knowledge-based networks are not the alternative to existing forms of public provision: they are an essential complement. Rather than being represented by an organisational structure or single policy lever, transformation becomes [a feature] of the whole system as it learns to generate, incorporate and adapt to the best of the specific new ideas and practices that get thrown up around it’ (Hargreaves, 2003, pp12–13).

Networking in a literal sense is part and parcel of the revolution in ICT. Writing in *The world is flat*, triple Pulitzer Prize winner Thomas Friedman (2005) described 10 forces – ‘the flatteners’ – that have converged in recent times. The first was the opening of the Berlin Wall in 1989. The others were the release of Netscape in 1995, integration of work flow, out-sourcing, off-shoring, open-sourcing, in-sourcing, supply-chaining, in-forming, and using ‘steroids’ – building an enhanced capacity in a mobile digitalised world. He suggests that the tipping point was reached around 2000.

‘The net result of this convergence was the creation of a global, web-enabled playing field that allows for multiple forms of collaboration – the sharing of knowledge and work – in real time, without regard to geography, distance, or, in the near future, even language. No, not everyone has access to this platform, this playing field, but it is open today to more people in more places on more days in more ways than anything like it ever before in the history of the world’ (Friedman, 2005, pp176–177).

This describes one of three convergences that account for the flattening of the world. The second is that there is stronger alignment between the capacities of an enterprise such as a school or school system and the potential that is available as a result of the first convergence. There has been impressive progress in schools and school systems over the period that Friedman covers. The third convergence, in Friedman’s eyes, is that the flatteners are now at work and alignment has occurred in parts of the world that were previously ‘frozen out’.

‘Save for a tiny minority, these three billion people had never been allowed to compete and collaborate before, because they lived in largely closed economies with very vertical, hierarchical political and economic structures. I am talking about the people of China, India, Russia, Eastern Europe, Latin America, and Central Asia.’ He concluded that ‘it is this triple convergence – of new players, on a new playing field, developing new processes and habits for horizontal collaboration – that I believe is the most important force shaping global economics and politics in the early twenty-first century’ (Friedman, 2005, pp181–182).

An illustration of international networking in the manner described by Friedman is the annual Moving Young Minds World Ministerial Seminar organised by the UK Department of Children, Schools and Families. The 2008 event was held immediately before BETT, the world’s largest educational technology show, which is held each year in London. More than 70 countries were represented: ‘In no other event is innovation in education represented at such

a high level among a truly international gathering of leaders from countries on every continent' (Government of the Cayman Islands, 2007).

In opening BETT, Britain's Minister of State for Schools and Learners Jim Knight described progress in the UK ('all our schools are connected to the National Education Network and more than 99% with broadband') and referred to developments 'across the globe to get the best out of technology for every learner'. He foreshadowed a 'summit' in January 2009 'where we can bring together perspectives and the best practice from across the globe – so that by learning from one another we can together make even more rapid progress in transforming education and skills by harnessing technology to its full potential' (Knight, 2008).

### **Reform and regeneration**

The possibilities of networks were addressed in the work of the Schooling for Tomorrow project of the Organisation for Economic Cooperation and Development (OECD) that published a book under the title of *Networks for Innovation: Towards New Models for Managing Schools and Systems* (OECD, 2003). The following excerpts illustrate the case for networks in educational reform, the first (Johansson) highlighting connections to community, and the second (Barber) concerned with uncertainty and knowledge transfer:

'School autonomy goes hand-in-hand with being connected to community, other educators, and the broader society. Hence, the key roles of networks and partnerships. Too much educational practice in OECD countries is characterised by isolation: schools from parents and the community and from each other; teachers and learners in isolated classrooms' (Ylva Johansson, of the Swedish E-Learning Organisation, in Johansson, 2003, p149).

'The challenge of reforming public education systems is therefore acute. Those responsible are in no position to deal

with uncertainties. What they can do is manage and transfer knowledge about what works effectively, intervene in cases of under-performance, create the capacity for change in the system and ensure that it is flexible and adaptable enough to learn constantly and implement effectively' (Michael Barber, writing at the time of publication as head of the Prime Minister's Delivery Unit in the UK in Barber 2003, p115).

Malcolm Groves (2008) considers networks and networking to be important in regenerating schools. Groves coined the concept of the 'regenerating school' after reviewing the plateau in student achievement across England after notable improvements at the turn of the century:

'Such a school aims to both raise the standards achieved by its students in traditional terms beyond the present plateaus, but at the same time also to measure itself by a broader range of outcomes. It is able to regenerate itself because it is looking outward to the regeneration of its communities, in which its students live and move, and to new relationships between school and the real world, the mainland and the island' (Groves, 2008, p18).

He gives particular attention to community engagement. Traditionally, schools have been stand-alone institutions to fulfil certain statutory obligations. He describes this as 'statutory schooling'. A regenerating school, Groves believes, 'contributes to increased social capital, with the school and its community becoming mutual providers of resources, expertise, employment and learning experiences, each to the other' (Groves, 2008, p17).

Groves takes up the theme of recent initiatives in England for schools to provide 'extended services' and contends that these can only be achieved by drawing on and contributing to the community. Raising achievement comes from establishing the kinds of relationships illustrated in Figure 1.

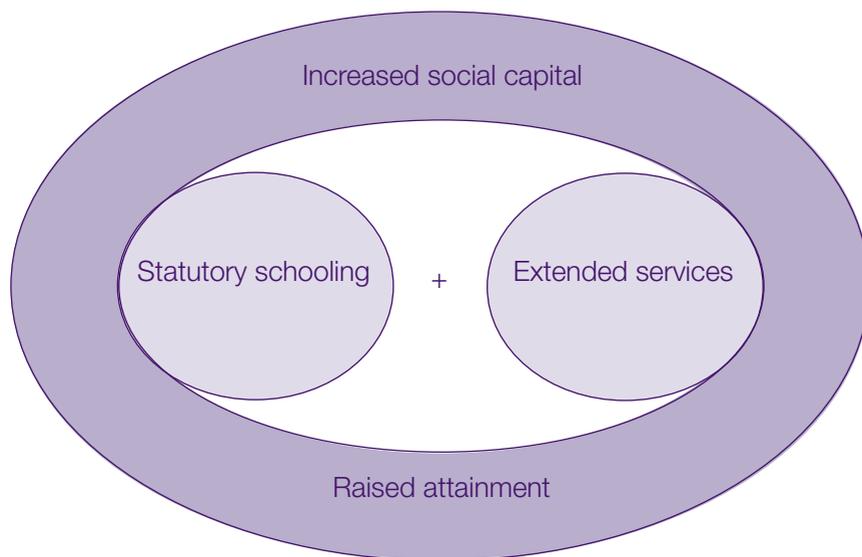


Figure 1: Regenerating schools through community engagement (Groves, 2008)

Groves believes that networks of a kind that draw on or contribute to social capital are based to a large extent on the level of trust among participants and that it may be easier to build trust through networks than through hierarchies. 'Because networks of trust release so much cognitive capability, they can (and often do) have far more influence over the fortunes and failures of an organisation, from day to day and year to year, than the official hierarchy' (Groves, 2008, p86).

The concept of social capital is taken up in part 3 in the context of findings in the International project to frame the transformation of schools.

### Redirection and a futures focus

Another project of the Schooling for Tomorrow initiative of OECD resulted in the formulation of six scenarios for the future of schools (OECD, 2001). These described possible strategic directions for schools, with two maintaining the status quo, two

involving 're-schooling', and two resulting in 'de-schooling'. The two re-schooling scenarios included an expanded role for networks.

The two re-schooling scenarios see an increase in public support for schools and a new status for the profession. The first scenario – 'schools as core social centres' – would see the school playing an important role in building a sense of community and creating social capital. A range of cooperative arrangements between schools and other agencies, institutions and organisations will be evident. 'Community interests – linguistic, cultural, professional, geographical – find very strong expression in this scenario, using the school as the focal point. Schools would be allowed a great deal of room to respond to, and promote, these interests. Networking and cooperation would therefore flourish' (OECD, 2003, p25).

The second re-schooling scenario sees a strengthening of schools as 'focused learning organisations', with emphasis on a knowledge rather than social agenda. Specialisations and diversity will flourish as will research on different pedagogies. Management involves flatter organisation structures and the building of teams and networks that draw on a range of expertise. There are high levels of investment in infrastructure, especially in disadvantaged settings. There is extensive use of ICT and partnerships with tertiary education and other institutions involved in knowledge creation and dissemination. 'Networks of expertise, including among teachers, would be an essential feature of this scenario. Bureaucratic and hierarchical models would give way to flatter, collaborative arrangements of networks, and there would be numerous partnerships involving the different stakeholders. The very management and governance of schooling arrangements would come to rely heavily on networks, with all the positive features of professionalism and dynamism this implies, but also the potential problems of instability and patchiness' (OECD, 2003, p26).

## 2 Illustrations of networks and networking

The examples of networks and networking in Part 2 are inevitably eclectic. Illustrations are from England, Australia, Singapore and China (Hong Kong SAR). These capture the major features described in Part 1.

### England

Some of the most extensive networks of schools may be found in England. The Specialist Schools and Academies Trust has established three kinds of networks that were identified as an important factor (Prime Minister's Delivery Unit, 2004) in explaining why specialist secondary schools, now numbering more than 90% of all secondary schools in England, were outperforming non-specialist schools in terms of value-added and rate of improvement, especially under challenging circumstances. These are (1) networks of schools that offer the same specialism, (2) networks of specialist schools in the same region, and (3) networks of secondary schools with their neighbouring primary schools. In another important initiative, the National College for School Leadership (NCSL) established more than 100 networked learning communities (NLC).

The Blair Government was satisfied that networking was a key factor in achieving transformation, as evidenced by proposals in its five-year strategy for each level of schooling, including pre-school, primary and secondary:

'Networks are an emerging feature of the landscape – networks of schools working together to solve shared problems, networks of schools and care agencies sharing information about vulnerable children, networks of schools, colleges and universities developing and sharing materials. Community learning, for families and adults wishing to upgrade their skills offers another form of network, linked by ICT to education hubs such as schools and colleges' (DfES, 2004, p108).

Of particular note are intentions in England for the networking of primary schools to support each other in raising standards, offer children a wider range of opportunities by sharing resources including staff, provide more comprehensive services to their communities, and support leadership and management through the sharing of bursars, or federating their governing bodies, or appointing a single executive principal to lead several schools. It was acknowledged that:

'It may not be right for the same networks to perform all these different functions. But supporting effective learning networks of primary schools will be the single most important way in which we can build the capacity of primary schools to continue to develop and improve, and in particular to offer better teaching and learning and a wider range of opportunities to pupils and their communities' (DfES, 2004, p42).

### **Networks for personalising learning**

Networks in the technological sense are important in implementing government intentions in respect to personalising learning, an important aspect of which is providing comprehensive, understandable and timely information about the progress of students. England's Minister of State for Schools and Learning, Jim Knight, has announced that 'by September 2010, all secondary schools will be expected to offer parents real-time access to information covering achievement, progress, attendance, behaviour and special needs, and where it is appropriate secure online access' (Knight, 2008).

Technology solutions to support teachers along these lines are impressive. For example, an online facility known as Target Tracker has been developed in partnership with the Essex County Council Advisory and Inspection Service. It enables the easy tracking of student progress at different levels of schooling with the aid of wireless-enabled handheld PDAs.

### New organisational forms

A range of organisational forms are emerging in England, with counterparts in other countries in some instances. Each involves networks and networking. Examples include full-service schools in which extended services are embedded in a school (see Dryfoos, 1994 for a comprehensive account of the nature and purpose of the full-service school); or community schools, in which schools are embedded in community learning centres; or federations of schools that share a range of extended services (each is an example of the OECD 're-schooling' scenario described in Part 1). Groves (2008) illustrates the possibilities (Figures 2 to 4) and provides a range of examples to show the significance of networking.

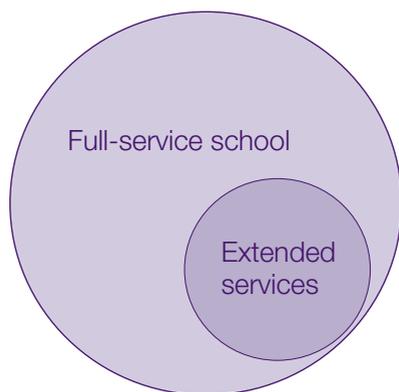


Figure 2: Networking of extended services within full-service schools (based on Groves, 2008, p32)



Figure 3: Embedding a school in networked services at a community learning centre (based on Groves, 2008, p32)

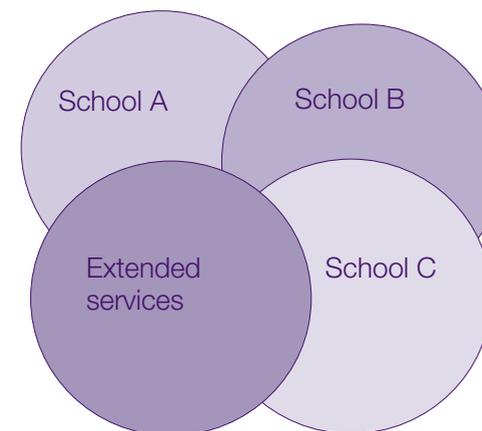


Figure 4: Networking extended services in a federation of schools (based on Groves, 2008, p32)

An outstanding example of a federation that is facilitated by, if not dependent on, networking is the Hastings School Federation in East Sussex on the south-east coast of England. Three schools – Filsham Valley, The Grove and Hillcrest – work in partnership with Ninestiles School located 150 miles away in Birmingham in the midlands. The executive leader of the enterprise is Sir Dexter Hutt, former headteacher at Ninestiles. Ninestiles is an

international exemplar of a school that has been transformed. The three schools in the federation performed below the government's 'floor target' of at least 30% of students achieving five good passes including English and science in examinations for the GCSE. The aim is to significantly and rapidly raise these levels of achievement. Professional learning for staff will occur within and across schools including video conferencing. The network/federation is augmented by the establishment of the Hastings University Centre and a £93million investment in the post-16 Hastings College. Dexter Hutt believes that federations may soon become the 'default' organisational form in some parts of England (Hutt, 2008).

## Australia

School education in Australia is a state responsibility (there are six states and two territories) with states organised in regions and sometimes districts for administrative and support purposes. Several states have moved to a different arrangement, organising schools in clusters and networks with the intentional of augmenting traditional vertical top-down or bottom-up lines of authority, responsibility and accountability with horizontal or lateral arrangements along the lines described in this paper. An example is Victoria which is organised into nine regions. From 2008 these regions have been divided into networks of schools, a total of 70 across the state. Intentions were announced in a recent 'blueprint' for education and early childhood development:

'We will provide support to revitalise schools and allow teachers to produce their best ... we will significantly expand the role of school networks through the employment of new regional network leaders. Under a new network strategic plan, networks will collectively support all schools to improve and achieve better outcomes for the students in a network' (Department of Education and Early Childhood Development, 2008, p27).

## A regional exemplar

An outstanding example of successful networks was reported by Educational Transformations (2008), commissioned to study the state's regional effectiveness model as implemented in Hume, a rural region of about 160 schools located in north east Victoria.

The eight elements of the model are professional leadership, a focus on learning and teaching, strategic stakeholder partnerships, shared moral purpose, high expectations for all learners, a focus on continuous improvement and strategic use of resources.

Each network in the region includes several clusters of schools with the unusual expectation that principals of each school in a cluster share responsibility for all students in the cluster. Professional knowledge is shared, issues of common concern are addressed, and resources are pooled wherever possible.

Principals and other school leaders in the Hume Region are participating in a common professional learning programme focused on building knowledge and skills as well as a shared language on matters related to learning and teaching. This is known throughout the region as 'the common curriculum'. There has been powerful impact with the following, drawn from case studies in six schools, giving an indication of how school leaders perceived the effectiveness of clusters and networks.

All schools reported high levels of involvement in their clusters and networks. The high expectations in the region for all school principals to be dedicated, focused and professional, for example, have resulted in increased professionalism in all network and cluster meetings. Principals reported that their meetings are now more strategic and are focused on areas that can assist every one of the member schools. Representatives from each school are actively involved in professional learning communities in their cluster that target a focus area of either literacy or numeracy. Principals reported that their networks also

provided resources and support for other forms of professional development.

Principals described how the regional director had made all processes in the regional administration more transparent. Schools in networks and clusters are more willing to share ideas, experiences, information and even their own school data. One principal indicated that member of the cluster share 'warts and all' information about the success of their changes and have arranged to share equipment, facilities and staff members.

Each principal has been extensively involved in implementing change at the regional, network or cluster level, in addition to the changes that have been adopted in their own schools. School leaders demonstrated a passion for and commitment to implementing changes to improve student learning at every level in the region, which they suggest have filtered down from the regional director. Principals have been spending more time focused on processes at the cluster, network and regional levels than ever before. There has been increased time spent out of the school. While all appear more than happy to commit time to working on these systemic changes, they indicated that they do not always have enough time for their administrative work. The time spent away from their school is a particular issue for leaders of small schools, who do not have administrative or support staff who can assist them with their role.

The perceptions of principals, as reported above for case study schools, are consistent with views across the region. Each year the Department of Education and Early Childhood Development (DEECD) conducts an online survey of principals and personnel at the regional and central level to seek their views on a range of matters. The survey is known as Your Job, Your Say (YJYS). The most recent survey was conducted in May 2008. In the Hume Region, the percentage of principals giving favourable ratings was higher than given by their counterparts in other regions for nine of the 14 themes addressed in the survey. Percentages in

the Hume Region giving favourable ratings were higher than the state-wide percentages for the remaining five themes, differing by only one or two percentage points from the region giving the highest ratings in four of these five instances.

Principals in Hume gave the highest or equal highest percentage of positive ratings to 81 of 168 items (48%) in the survey. There are nine regions and if each region was to have an equal share of the number of items for which highest ratings were received, then this proportion would be 11% or 18 items. It is clear that the Hume Region is performing very well in the eyes of its principals. In no instance did Hume principals give the lowest percentage of positive ratings. The following are ratings that are particularly relevant to networking in the region. The percentages are of respondents giving a positive rating and these are the highest in the state for these items.

- There is close collaboration among principals in your network (92%).
- Collaboration between other schools is encouraged in your regional office (92%).
- You have the opportunity to collaborate with other principals in your region (99%).
- You feel that the people in your network are passionate about what they do (96%).
- You are proud of what your network does (95%).
- Your network demonstrates its commitment to continuous improvement (97%).
- Your network is contributing to the 'greater good' of the development and education of children (99%).
- Decision-making processes are efficient in your network (92%).
- In your experience, people in your network actively encourage the sharing of information (94%).
- Your network has enough people to get the job done (54%).
- In your network the workload is divided equally (57%).

## A range of approaches

Rosalyn Black (2008) has written the most comprehensive account to date of networks and networking of schools in Australia in *Beyond the Classroom: Building new school networks*. All call on the creation of social capital, described in Part 3 in the account of the International Project to Frame the Transformation of Schools (social capital refers to the strength of formal and informal partnerships and networks involving the school and all individuals, agencies, organisations and institutions that have the potential to support and be supported by the school). She provides a host of illustrations from around the country, including many involving the philanthropic organisation for which she serves as research manager (Foundation for Young Australians) and its partner Education Foundation.

To conclude this brief account of developments in Australia, it is worth describing what is often considered a superficial approach to networking but can considerable power to assist in the transformation of schools. Known as 'The learning walk' it provides a structured opportunity for schools to study outstanding practice in other schools. Guides to its effective use are readily available, for example *Learning Walks: Tools and Templates for getting Started* (DfES, 2007). Examples of its use in a number of nations can be obtained from an internet search. It is a favoured approach of iNet (Australia). It was adopted on a system-wide basis in the Eastern Metropolitan Region of the Department of Education and Early Childhood Development (Victoria) prior to its annual conference for school leaders in June 2008. Every participant was expected to visit one other school in the region to focus on a particular aspect of learning and teaching, guided by a template for structured observation.

## Singapore

Singapore is one of the top-performing nations as indicated, for example, in the results of the 'Trends in Mathematics and Science Study' (TIMSS), ranking first among 49 nations in each

of Grade 4 and Grade 8 for both mathematics and science in the 2003 tests. Singapore's chief resource is its people and it must continually re-shape its system of education to meet the needs of the nation. Networking plays an important part. Prime Minister Lee expressed it this way in his contribution to a special edition of Newsweek on the theme 'The knowledge revolution: why victory will go to the smartest nations and companies': 'we are remaking ourselves into a key node in the global knowledge network, securing our place under the sun' (Lee, 2006).

In addition to operating as a 'node in the global knowledge network', there is a substantial amount of internal networking. Stimulated by the engaging vision of 1998 of 'Thinking Schools, Learning Nation', the Ministry of Education established the Teachers Network, now in operation for a decade, aiming to 'build a fraternity of reflective teachers dedicated to excellent practice through a network of support, professional exchange and learning'. In TIMSS 2007, Singapore maintained its top ranking in science at Grade 4 and Grade 8 and was ranked second and third, respectively, in mathematics.

## China (Hong Kong SAR)

Like Singapore, Hong Kong SAR is a top-performing system in TIMSS. Networks flourish in Hong Kong, energised to a large degree by the remarkable Quality Education Fund (QEF) established in 1998 with a capital of HK\$5billion. Since its inception it has supported over 7,000 applications with grants totaling about HK\$3.5billion. Most have involved schools and particular attention is given to networking the outcomes.

Twenty projects received Outstanding Project Awards at the QEF Projects Exposition to mark its tenth anniversary in 2008. Noteworthy awards received by the Chinese University of Hong Kong were characterised by networks. The Accelerated Schools for Quality Education Project received a grant of more than HK\$60million to enhance university-school partnerships in three

areas: school administration, curriculum and teaching, parents and community. The three-year project involved 50 schools with findings shared through a network of conferences and workshops involving more than 60,000 teachers, students and parents. It was led by the current Dean of Education at CUHK Professor John C K Lee.

The second award-winning project administered by CUHK was 'V-China – Enhancing the Effectiveness of Teaching and Learning Using Video Conferencing Activities' led by Professor Wong Po-choi of the Department of Information Engineering:

'The V-china project received HK\$2.5million to organise remote learning activities in schools in mainland China and Hong Kong through advanced video conferencing technology. The project covers 300 schools in Hong Kong, Shanghai, Beijing, Hunan, Hangzhou, Ningbo, Xi'an, Lhasa and overseas. It enables students to gain knowledge of China through remote cultural exchanges with mainland schools in the form of book sharing, debate competitions, and presentations, and also improve their Putonghua [Mandarin]' (CUHK, 2008).

### 3 Research on impact of networks

Until recently there was surprisingly little research on the processes and outcomes of networking in education. Stimulated by the creation of the Networked Learning Communities of the National College for School Leadership (NCSL) in England, Kerr et al. (2003) concluded in a report to the National Foundation for Educational Research (NFER) that:

'The research and evaluation base is very fragmented and there is a diversity of opinion ... Much of the evidence available is dependent on the beliefs of researchers and interested parties and the approaches and interests they represent. The literature is sparse and contradictory about the benefits, key lessons and challenges arising from building and how best to sustain professional learning communities ... There is a lack of research that captures the messy and complex nature of network processes. This is because of the difficulty of evaluating and monitoring multi-faceted network processes. It is also the case that network coordinators and facilitators often manage their networks in informal and implicit ways, often with limited recording procedures because of pressures of time and limited resource.'

The NCSL commissioned research on the impact of its networked learning communities. While cause-and-effect is not attributed, it was found that schools in networked learning communities in Cornwall consistently outperformed those

that were not, on value-added measures at key stage 2 (upper primary) (NCSL, 2005, p15) (see also Earl and Katz, 2005).

Smith and Wohlstetter (2001) reported an extended study of large-scale networking (see also Wohlstetter, Malloy, Chau and Polhemus, 2003). It focused on the Los Angeles Annenberg Metropolitan Project (LAAMP) funded by the Annenberg Challenge in the amount of \$53million over five years in the mid-1990s. A total of 250 schools were distributed in 21 networks termed 'school families'. Smith and Wohlstetter found evidence of benefits that included community-based collaboration, the transformation of school leadership, cost sharing, knowledge sharing, and the involvement of external partners. Challenges included the development of group process skills and the generation of quality information. They concluded that:

'The Annenberg approach to school improvement emphasised building capacity for innovation among an integrated set of schools. Through joint network activities, problems could be conceptualised in a more integrated holistic fashion, and technical competencies and other resources from a network of mutually supportive schools could be shared to respond rapidly to changing environmental conditions ... Although networks cannot change a turbulent policy climate, preliminary findings suggest they can moderate the negative impact of turbulence on member schools' (Smith and Wohlstetter, 2001, pp516–517).

An Australian study considered the processes and outcomes of 16 pilot projects funded as communities of practice in the Vocational Education and Training (VET) sector (Mitchell, 2002). Communities of practice were defined as 'groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis' (Mitchell, 2002, p6 based on Wenger, McDermott and Snyder, 2002, p4). A number of benefits were reported including the fostering of communication and the sharing of new knowledge, improvements in productivity,

encouragement of innovation and reinforcement of strategic direction. Challenges included perceptions that the communities were marginal or lacked legitimacy, reluctance of some members to adopt new conventions for networking, and absence of documentation (based on Mitchell, 2002, p7).

The findings of another Australian project on the sharing of knowledge within the profession are noteworthy. The Queensland Consortium for Professional Development in Education (2004) explored the contribution to professional growth of 71 professional associations and networks. The findings confirmed an earlier report of the Board of Teacher Registration (2002, p45) that concluded that 'networks appear to provide optimum environments within which understandings of, and insights into, knowledge of learners (including the teachers themselves) and knowledge of educational contexts (including the networks themselves) can be developed, examined and integrated'.

The report acknowledged that 'the traditional roles, responsibilities and structural arrangements of professional associations are under challenge' and proposed that they 'take stock and reappraise both the role they play in the broader educational context and the services they provide to members and the profession' (Queensland Consortium for Professional Development in Education, 2004, p1). The report drew attention to a range of issues for leaders of professional associations and networks and highlighted the guiding principles of communities of practice (Wenger, McDermott, and Snyder, 2002).

## International Project to Frame the Transformation of Schools

The International Project to Frame the Transformation of Schools was conducted in six countries (Australia, China, England, Finland, United States and Wales) in 2007 and 2008. The findings are reported in *Why not the Best Schools?* (Caldwell and Harris, 2008) Funded by the Australian Government and Welsh

Assembly Government, its purpose was to explore how schools that had been transformed or had sustained high performance had built strength in each of four kinds of capital and aligned them through effective governance to secure success for their students. The project was framed by the model in Figure 5. Particular attention was given to secondary schools in systems where there was a relatively high level of school autonomy. Studies were conducted in five secondary schools in each of the six countries.

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, organisations 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.

Drawing on a range of literature and the findings of earlier stages of a five-year research and development project, sample indicators were devised for each kind of capital and of governance. They served as a guide to researchers in each of the six countries in the selection of schools and to help build a common understanding of what was meant by each concept (intellectual capital, social capital, spiritual capital, financial capital and governance).

Fifty indicators – 10 for each kind of capital and for governance – were devised. Those for intellectual and social capital are listed

below because networks were included (Item 7 for intellectual capital; items 2 and 5–10 for social capital). Each set of 10 is followed by brief illustrations from the six countries in the project.

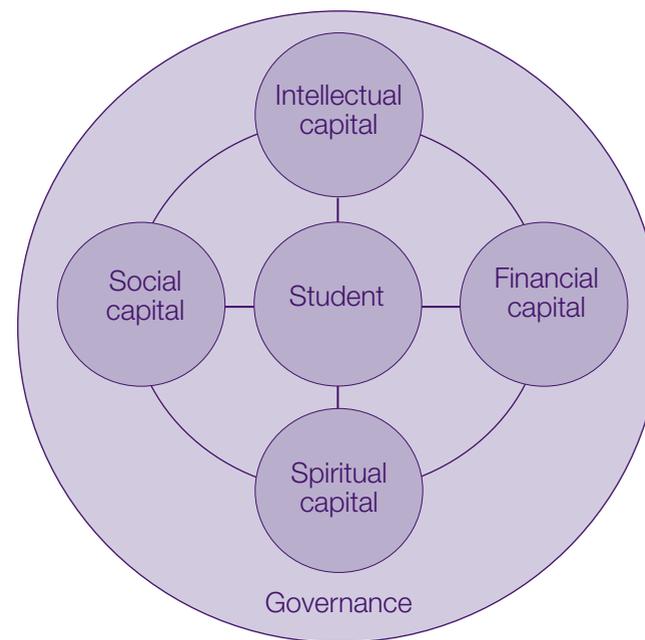


Figure 5: Alignment of four forms of capital

### Intellectual capital

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 recognised 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, organisations, 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.

While schools from each of the six countries have developed their own professional learning communities, they did not wish to become insular and were generally keen to share their innovations, successes and professional learning with other schools. They used links with other schools to gather, develop and disseminate new ideas about educational practice. Networks and relationships between schools were developed in a variety of ways, including locally, with schools in a district or region working together, or through specific interests, such as networks of schools in England that share the same specialisation. Many schools that participated in the project were also involved in national and international professional networks, such as the Council for International Schools, and iNet.

One example of the development and sharing of skills in a network is the Frankston Assistant Principals' Network in Victoria, Australia. The Frankston network involves 33 schools from the Southern Metropolitan Region, including 24 primary schools, six secondary schools, and three special schools which cater for students with physical and/or intellectual disabilities. The relationship between these schools is based on a common commitment to support achievement for all students in the region by building the effectiveness of schools and teachers.

The network meets regularly to share good practice and innovative ideas that they have implemented in their schools. Collaborative approaches to professional learning within the network complement the professional development programmes run by individual schools.

Another example of networking for the development and dissemination of best practice is Plumstead Manor School in England. This school works closely with three other schools in the area, assisted by a Leadership Incentive Grant. The heads of departments from each school are able to share knowledge and develop strategies for dealing with local challenges. The lead learning support assistant at Plumstead Manor School is actively involved in a network for lead learning support assistants and collaborates with a local educational institution to provide further training for support staff in the school and the local area. Participation in these types of networks is referred to as 'two-way traffic' as it both brings new ideas into the school and enables the school to share its practices with others.

Schools, through the development of approaches that encourage collaborative work between staff members within the school and promoting the sharing of best practice between schools, are able to create an environment that supports the continuous improvement of their staff. These approaches have proved successful in improving the knowledge and skills of all staff. By working collaboratively and sharing knowledge, however, schools are not only building their intellectual capital. They are building strong relationships with other schools, organisations and individuals. In short, schools are also building their social capital, as illustrated below.

### **Social capital**

1. There is a high level of alignment between the expectations of parents and other key stakeholders and the mission, vision, goals, policies, plans and programmes of the school.
2. There is extensive and active engagement of parents and

others in the community in the educational programme of the school.

3. Parents and others in the community serve on the governing body of the school or contribute in other ways to the decision-making process.
4. Parents and others in the community are advocates of the school and are prepared to take up its cause in challenging circumstances.
5. The school draws cash or in-kind support from individuals, organisations, agencies and institutions in the public and private sectors, in education and other fields, including business and industry, philanthropists and social entrepreneurs.
6. The school accepts that support from the community has a reciprocal obligation for the school to contribute to the building of community.
7. The school draws from and contributes to networks to share knowledge, address problems and pool resources.
8. Partnerships have been developed and sustained to the extent that each partner gains from the arrangement.
9. Resources, both financial and human, have been allocated by the school to building partnerships that provide mutual support.
10. The school is co-located with or located near other services in the community and these services are utilised in support of the school.

Illustrating social capital, for some schools in Australia, England and Finland, the links with other schools include sharing teachers and other resources. The sharing of teaching staff is common in Finnish schools, particularly in specialist subject areas.

International school relationships may be fostered through 'sister school' or 'partner city' programs. International links between schools may also be established and supported by networking organisations, such as iNet and Comenius, an educational program of the European Commission, which seeks to develop

understandings of European cultures through cooperation between schools in different countries. For some schools, relationships with other education providers are predominantly locally-based, sharing knowledge, skills and facilities within their local communities.

One interesting feature of the study was that most schools highlighted the importance of establishing a strong relationship with feeder schools. In the case of Beauchamp College, a popular 14–19 upper secondary college in Leicestershire, England, strong links have been formed with the secondary schools that their students have attended. For some schools, the links with feeder primary schools may include sharing teachers and resources. Secondary schools in Australia, England and Finland reported that they provide practical support for networked primary schools, including training and even the provision of teaching staff in areas such as modern foreign languages and music.

St Joseph's Roman Catholic High School in Newport, Wales, begins its partnerships with parents when prospective students are in their last two years of primary school. As it has seven designated Roman Catholic feeder primary schools and six others that it also regularly received students from, this is a considerable commitment. It appears to pay dividends because parent meetings in the secondary school are well attended, with up to 90% on some occasions. The links that St Joseph's has established with feeder primary schools also assist staff, who are clearly impressed and influenced by some of the best work that takes place in these schools. Many approaches to pedagogy reflect the influence of work undertaken by these feeder primary schools. As well as providing school staff with new ideas, the consistency in pedagogy has the potential to support students in their transition from primary to secondary schooling.

Potential economic benefits of inter-school relationships were highlighted in the studies of schools in Finland. The majority

shared some of their teaching staff with other schools. In the case of Hatanpää School in Tampere, about one quarter of the teaching staff also provide services to nearby secondary schools. Furthermore, schools in Finland, which are funded by the municipalities, often share their facilities with adult education providers that operate out of school hours. This type of collaboration provides significant economic benefits to municipal authorities by avoiding the duplication of educational facilities.

Inter-school collaborations are reported to benefit staff by providing them with greater opportunities for training and professional development, enabling the exchange of ideas and best practice, and improving staff motivation, confidence and morale. The benefits of networks between education providers were highlighted in each of the six countries. Schools developed relationships with other education providers that support the professional learning of staff. In Finland, it is common practice for teachers to visit other schools to gain ideas. Local schools face similar challenges, so the exchange of information is valuable for all schools in the network.

Secondary schools in Chongqing, China, indicated that strong relationships with teacher education programs and education research institutions assist schools. These links provide staff with opportunities to conduct joint research and development programs to improve the quality of their teaching. Chongqing Qinghua High School, a prestigious boarding school that was named one of the first 'key schools' in the region, has managed to maintain and benefit from historical connections with other institutions, including Qinghua University which was once located on the current school site. Qinghua University provides regular professional training for teachers, while the school agreed to send qualified students with special talents to Qinghua University. The two parties have also signed an agreement to share information and resources and to organise teacher exchanges. In addition to networks with parents and other educational providers, the majority of schools in the study have also formed

formal and informal links with other organisations. The schools have chosen to collaborate with a variety of organisations, including multi-national organisations, local businesses, not-for-profit organisations, religious groups and social services. Specialist schools in England have links with organisations within their specialist field that provide them with practical support and knowledge as well as financial support. Traditionally, schools in China do not have strong links with business. Instead, the government plays an important role. Maintaining effective relationships with government agencies is part of the social capital for Chinese schools.

Links with external organisations can extend the educational opportunities and support available to students. Schools in Australia reported that their links with other businesses, agencies and organisations, including not-for-profit organisations, are highly valuable. These relationships help to demonstrate and reinforce the moral purpose of the school, by supporting students and enabling the school to support others. In this way, these links may also help to strengthen the schools' spiritual capital. Schools in the United States indicated that partnerships with other organisations can help by volunteering staff expertise and time, making financial donations and providing real-life experiences that support and enhance the school. Students can learn from these organisations by visiting, observing and participating in their activities.

The Young Women's Leadership School, New York, is an outstanding example of how partnerships with other schools, universities and businesses can support the success of all students. This school achieves 100% graduation and college admission rates for its students, many of whom come from single-parent families and low socio-economic backgrounds. Of the 420 students at the school, 65% are Latina and 35% are African-Americans. In 2005, the school was selected as a Breakthrough High School by the National Association of Secondary School Principals.

As it is located in Manhattan, the school has developed partnerships with numerous museums. Museum staff members come to the school to work with students and teachers on different subject area skills. The museums also encourage students to visit exhibitions to assist with their classroom learning. Sometimes, the partner museums display students' work, which motivates and arouses student interest. Other community partners including universities offer summer programs for students. For example, Mercedes-Benz supports a two-week summer enrichment program to help students entering the Young Women's Leadership School better understand the school's culture and expectations. The New York Academy of Medicine helps students with research methodologies. The academy also teaches students how to make presentations and how to act appropriately in job and college admission interviews. The principal attributes the school's success to the efforts of the teaching staff and their willingness to collaborate with external organisations to support students in achieving their goals.

Schools in Finland also reported that they have developed strong relationships with other local and community organisations, including the municipal social and health services networks. According to the principal of Hatanpää School, the second most important network for the school is the social network for pupil welfare, such as the curator, or school counsellor, (who helps pupils with their problems and in finding solutions), the psychologist, and the social services of the city of Tampere in general. These networks assist the school in its focus on student welfare. The school also has connections with the church. Church employees have special youth work divisions and they are always willing to help the pupils when needed. Hatanpää School also has links with local industry. Students in grades eight and nine (ages 14 to 15) do compulsory work experience with local firms, which is organised by the school's vocational counsellor. This brief contact with working life motivates pupils to study and gives them experience in a possible career pathway.

## Summary

David Hargreaves has done much to build the case for networks and networking, especially for innovation in learning, teaching, support, leadership and design, drawing extensively on practice in schools, especially in England. He is a key author in the series of pamphlets published by the Specialist Schools and Academies Trust. He concluded that networks in education tend to succeed when:

1. There is a clear and agreed outcome to the network's activity.
2. The benefits of networking – creating the network, operating it and maintaining it – exceed the costs, since lack of pay-off is disincentive to continuation.
3. The participants are committed to professional learning through collaboration, sharing and joint activity, with agreed ways of working.
4. The network contains high social capital and its two key components: trust between members and norms of reciprocity.
5. Leadership and management are distributed and supportive.
6. There is appropriate support in terms of time and/or resources, an appropriate model for professional development that connects innovation to normal professional practice.
7. There is a good balance in communication between face-to-face and electronic and virtual forms and e-networking is instituted after trustful, face-to-face networks have been established (Hargreaves, 2008a, p33).

## 4 Dilemmas and directions

### Networking and system leadership

At first sight there are tensions between traditional organisational forms in systems of education and new forms in which networks are a major feature. Can schools meet expectations through formal or informal lateral networks without the need for hierarchical forms of organisation with formal vertical lines of authority, responsibility and accountability? What should be the balance between the two forms?

This is a false dilemma for, on the evidence reviewed in this paper, there is either a need for both or they operate in complementary fashion, and networks are thriving within more-or-less traditionally organised systems of education, providing there is flexibility in the latter and different approaches to leadership are devised to complement those already in place. It is in this respect that new ideas about 'system leadership' are emerging (see Hopkins, 2007 for a detailed explanation).

System leadership normally refers to formal leadership at different levels of a school system, and this kind of leadership is important for networks and networking. It was illustrated in Australia in the case of the Hume Region of the Department of Education and Early Childhood Development (DEECD) in Victoria, a state that is now organised into 70 networks. It required leadership at the level of government/minister to make the change (DEECD,

2008). In the case of the successful networking in the Hume Region described in Part 2, all participants in the study by Educational Transformations (2008) highlighted the outstanding leadership of Regional Director Stephen Brown. Each network has an appointed Regional Network Leader (formerly known as a Senior Education Officer) whose work is critical to the success of the network. Principals in the Hume Region gave the highest ratings of among principals in the nine regions in Victoria for the work of these people in respect to the following items that were particularly related to themes in this paper:

- Communicates a clear vision for the future (92%).
- Builds proactive stakeholder relationships (90%).
- Is held accountable for the results of their actions (87%).
- Communicates very well with you (96%).
- Encourages teamwork (97%).
- Gives serious consideration to the opinion of people within your network (93%).
- Makes himself/herself accessible to you (97%).

Another relatively new concept of system leadership is emerging in the Hume Region and elsewhere in Victoria because each principal and other school leaders in a cluster or network are expected to assume a degree of responsibility for the wellbeing of students across the cluster or network by sharing knowledge, addressing issues of common concern or pooling resources.

There is a more formal kind of system leadership emerging in federations of schools, as illustrated in Part 2 in the case of the Hastings School Federation in south-east England, working in partnership with the Ninestiles School located 150 miles away in Birmingham, with Sir Dexter Hutt serving as executive leader.

In other international examples, system leadership in the classical sense was clearly required for Singapore's vision of 'Thinking Schools, Learning Nation' that led to the establishment of the Teachers Network. In Hong Kong it was the first chief executive

who established the Quality Education Fund (QEF) whose leaders approved more than 7,000 grant applications over a decade and provided a framework to network the findings. Both jurisdictions are outstanding performers in international tests such as TIMSS (Trends in Mathematics and Science Study).

## Networking and the reconfiguration of schools and school systems

There are specific dilemmas involving the reconfiguration of schools and schools systems, especially where schools are given a higher level of autonomy, thus shifting the balance of centralisation and decentralisation, and more significantly, where schools with a relatively high degree of autonomy decide to join up in a federation. David Hargreaves is an international thought leader on system redesign and its implications for leadership. He summarised the dilemmas and the challenges in the following terms:

‘... among the institutional reconfigurations are some startling potential changes to 20th century schooling: the end of the autonomous school, stage not age and the disappearance of year groups, reworking the academic-pastoral divide, new designs for buildings and learning spaces. These have an instant appeal – or challenge – that is missing from talk about leadership’ (Hargreaves, 2008b, p3).

‘... for a school embarking on the move from a single, autonomous school into a hard federation of several schools, there will be an interaction between that (institutional) change and associated changes in how the federation is to be co-constructed between the parties involved (roles) and how staff structures will change (leadership)’ (Hargreaves, 2008b, p3).

The idea that there should be ‘co-construction’ in system re-design is consistent with approaches to networking described in this paper.

Dilemmas are also evident in the formation of national strategies for personalising learning. It is only at the school or classroom levels that intentions can be realised and the profession itself must take the lead. There are important roles for networks as David Hargreaves explains:

‘[In respect to implementing an agenda for personalising learning it was argued that] the way forward was not by means of a centralised national strategy for personalising learning. Rather, it would be through the profession taking on the responsibility for devising and implementing what personalisation could offer to the task of improving teaching and learning. The networks have served a double function: bringing schools into partnership to co-construct innovation; and allowing the knowledge transfer by which emerging practice is disseminated to others’ (Hargreaves, 2008b, p10).

## Conclusion

While networks have been evident throughout history they are a relatively recent phenomenon as far as large-scale shifts in organisational forms in education are concerned. It is clear, however, that the tipping point has been reached and that they will be a significant feature in the years ahead as schools and school systems seek to secure success for all students in all settings. They appear indispensable if knowledge about best practice is to be spread quickly and if there is to be flexibility in response to the rapidly-changing needs of nations. Advances in technology make this more feasible than ever.

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From 1998 to 2004 he served as Dean of Education at the University of Melbourne where he is currently Professorial Fellow. International work over the last 25 years includes more than 500 presentations, projects and other professional assignments in or for 39 countries or jurisdictions on six continents. In addition to more than 100 published papers, chapters and monographs, Brian Caldwell is author or co-author of books that helped guide educational reform in several countries, most notably the trilogy on self-managing schools: *The Self-Managing School* (1988), *Leading the Self-Managing School* (1992) and *Beyond the Self-Managing School* (1998), each with Jim Spinks. *Re-imagining Educational Leadership* was published in 2006. *Raising the Stakes: From Improvement to Transformation in the Reform of Schools* (2008) is his fourth collaboration with Jim Spinks. *Why not the Best Schools? What we have Learned from Outstanding Schools around the World* with Jessica Harris was also published in 2008.

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