CREATING NETWORKS OF MODEL SCHOOLS: INTERNATIONAL EXPERIENCE AND BEST PRACTICE

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There is a trend to networks and networking in efforts to improve the performance of schools especially where schools have a higher level of autonomy than in the past. The purpose of this paper is to summarize research on networking and to give examples of good practice in different countries.

This paper is presented in a symposium on the theme of School Autonomy and Accountability so it is important at the outset to note an important trend and highlight recent research findings as far as autonomy is concerned.

The concept of autonomy

Taken literally, school autonomy implies a degree of freedom that does not exist in any system of public education and it is becoming increasingly rare to find it in non-public schools that receive funds from the public purse. Such schools are constrained to the extent that their autonomy is framed by the requirement of accountability for the use of those funds which, in most countries, are conditional on the delivery of a curriculum that must be followed by all schools in receipt of public funds. Autonomy is constrained even

in those schools that have generally been described as autonomous, including charter schools in Canada and the United States.

Despite the foregoing, the concept of autonomy is widely used, although it is qualified in certain ways in both policy and practice. Depending on the setting, the terms 'local management', school-based management' or 'school self-management' are often used.

Much of our work in Australia has been concerned with the self-managing school, defined as 'a school in a system of education to which there has been decentralized a significant amount of authority and responsibility to make decisions related to the allocation of resources within a centrally determined framework of goals, policies, standards and accountabilities' (Caldwell and Spinks, 1988; 1992; 1998). Resources are defined broadly to include finance, curriculum, staffing, facilities and maintenance.

Trends and impact

Providing schools with more authority and responsibility to make decisions has been an international trend in recent years, as mapped by the OECD (OECD, 2004). This mapping highlights a parallel trend to greater centralization of decisions for some functions so that the general pattern is best described as higher levels of autonomy for decisions related to the manner in which centrally-determined curriculum, standards and accountabilities are delivered at the local level.

Early research on the impact of autonomy or its variants of local management, school-based management or self-management were inconclusive, although limited evidence of the links between autonomy and learning outcomes has emerged in the last decade (Caldwell, 2003; 2005). The most striking findings have come from recent analyses in the Program for International Student Assessment (PISA) conducted by the OECD in 2003 and 2006.

Particular attention was given in PISA 2006 to knowledge and skills in science of 15-year olds. More than 400,000 students participated from 57 countries covering 90 percent of the world's economy. School principals reported on the extent of autonomy on a range of matters. The following findings are noteworthy:

> After accounting for demographic and socio-economic background factors, school level autonomy indices in staffing, educational content, and budgeting do not show a statistically significant association with school performance. However, a system-level composition effect appears with regard to school autonomy in educational content as well as budgeting. Students in educational systems giving more autonomy to schools to choose textbooks, to determine course content, and to decide which courses to offer, tend to perform better regardless of whether the schools which individual students attend have higher degrees of autonomy or not (an increase of one unit on the index corresponds to an increase of 20.3 score points in science). Similarly, students in educational systems that give more autonomy to schools to formulate the school budget and to decide on budget allocations within the school tend to perform better regardless of whether the schools that individual students attend have higher degrees of autonomy or not (an increase of one unit on the index corresponds to an increase of 22.5 score points in science). School autonomy

variables do not appear to have an impact on the relationship between socio-economic background and science performance, that is, greater school autonomy is not associated with a more inequitable distribution of learning opportunities. (OECD, 2007, p 252-253)

The findings reported above can be interpreted in the context of the range of scores for science. Finland was the top ranked nation (score of 563) while Mexico was the bottom ranked (score of 410). The OECD average score is defined as a range from 495 to 504.

The report of PISA 2006 goes further to construct a model to explain the joint impact of school and system resources, practices, and policies on student performance. Of the 15 factors in the model, the system average on the school autonomy index in budgeting is by far the most powerful, associated with a net increase in score of 25.7.

Even more striking, especially in the context of the themes of this symposium (autonomy and accountability) are two studies on PISA 2003 conducted for OECD by staff in the Ifo Institute for Economic Research at the University of Munich, Department of Human Capital and Innovation. These were concerned with school accountability, autonomy and choice, with one focusing on level of student achievement and the other on equity of student achievement. On level of student achievement, the following findings are noteworthy:

> On average, students perform better if schools have autonomy to decide on staffing and to hire their own teachers, while student achievement is lower when schools have autonomy in areas with large scope for opportunistic behaviour, such as formulating their own budget. But school autonomy in formulating the budget, in establishing teacher salaries, and in determining course content are all significantly more beneficial in systems where external exit exams introduce accountability. (Wößmann, Lüdemann, Schütz and West, 2007, p. 59)

> Students perform substantially better in systems where private school operation creates choice and competition. At the same time, student achievement increases along with government funding of schools. A level playing field in terms of government funding for public and private schools proves significantly performance enhancing. The evidence is less clear on whether choice among public schools has any significant effect on student achievement across countries, although in urban areas where there are more schools to choose from, student achievement is higher for students who are not restricted to attend the local school and who report that they attend their school because it is better than alternatives. (Wößmann, Lüdemann, Schütz and West, 2007, pp. 59-60)

The conclusions on equity of student achievement were equally noteworthy:

> . . . rather than harming disadvantaged students, accountability, autonomy, and choice are tides that lift all the boats. . . there is not a single case where a policy designed to introduce accountability, autonomy, or choice into schooling benefits high-SES students to the detriment of low-SES students, i.e. where the former gain but the latter suffer. This suggests that fears of equity-efficiency

tradeoffs and cream-skimming in implementing market-oriented educational reforms are not merely exaggerated, but are largely mistaken. (Schütz, G., Wößmann, L. and West, M.R., 2007, pp. 34-35)

Re-imagining the self-managing school

Two important issues may be raised in the light of trends and impact. How do autonomous or self-managing schools build capacity to achieve expectations? What is the role of system authorities at the national, state, regional or district levels that traditionally provide direction and support?

In 2004 we commenced a three-year project to re-examine the concept of the self-managing school given several decades of experience in different countries around the world. We found that practice had outstripped the initial conception of self-management and that what we described as a 'new enterprise logic of schools' was emerging. The concept of 'new enterprise logic' was adapted from Zuboff and Maxmin (2004). Ten elements were identified and together these constitute the new image of the self-managing school.

1. The student is the most important unit of organization – not the classroom, not the school, and not the school system – and there are consequent changes in approaches to learning and teaching and the support of learning and teaching.

2. Schools cannot achieve expectations for transformation by acting alone or operating in a line of support from the centre of a school system to the level of the school, classroom or student. Horizontal approaches are more important than vertical approaches although the latter will continue to have an important role to play. The success of a school depends on its capacity to join networks or federations to share knowledge, address problems and pool resources.

3. Leadership is distributed across schools in networks and federations as well as within schools, across programs of learning and teaching and the support of learning and teaching.

4. Networks and federations involve a range of individuals, agencies, institutions and organisations across public and private sectors in educational and non-educational settings. Leaders and managers in these sectors and settings share a responsibility to identify and then effectively and efficiently deploy the kinds of support that are needed in schools. Synergies do not just happen of their own accord. Personnel and other resources are allocated to energies and sustain them.

5. New approaches to resource allocation are required under these conditions. A simple formula allocation to schools based on the size and nature of the school, with sub-allocations based on equity considerations, is not sufficient. New allocations take account of developments in the personalising of learning and the networking of expertise and support.

6. Knowledge management takes its place beside traditional management functions related to curriculum, facilities, pedagogy, personnel, and technology.

7. Intellectual capital and social capital are as important as other forms of capital related to facilities and finance.

8. New standards of governance are expected of schools and the various networks and federations in which they participate. These standards are important in the likely shift from dependence and self-management to autonomy and self-government.

9. Each of these capacities requires further adaptation as more learning occurs outside the school, which is one of several major places for learning in a network of educational provision. The image of the self-managing school continues to change in different settings.

10. The sagacity of leaders and managers in successful self-managing schools is likely to be the chief resource in preparing others if transformation in a short time and on a large scale is the goal (Caldwell, 2006, pp. 71-2).

It is evident that system authorities continue to have an important role to play but schools build capacity and secure support in other ways, notably through networks.

Research on networks

Van Aalst's definition of networking is a helpful starting point in describing the forms that 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, p. 33).

According to van Aalst (2003, pp. 36-37) there are three types of networks that may operate alone or in combination:

- A 'community of practice' that 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 organization' that involves a more or less formal relationship between autonomous organisations with the intention of adding value to each, the chief advantage being that each partner can remain autonomous yet build its capacity to achieve its mission through synergies achieved with other partners.

- A 'virtual community' may take many forms, with the common element being the medium of ICT.

There has been 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

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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.

A recent review of research by the NFER confirms the value of inter-school collaboration as one approach to networking. While acknowledging 'the dearth of good empirical evidence', the main benefits were economic (sharing of resources, accessing new funding streams, and economies of scale), school improvement (enhanced curriculum, development of teacher expertise) and the forging of closer relationships (Atkinson, Springate, Johnson and Halsey, 2007, ix).

The NCSL commissioned research on the impact of its Networked Learning Communities. While cause-and-effect is not attributed, it was found, for example, that schools in networked learning communities in Cornwall consistently outperformed those that were not on value-added measures at the upper primary (elementary) level (National College for School Leadership, 2005, p. 15) (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 $53 million 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 emphasized building capacity for innovation among an integrated set of schools. Through joint network activities, problems could be conceptualized 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, pp. 516-517).

Models of good practice in networking

Five examples of networks and networking illustrate good practice. The key features are summarized here. Details may be found in the listed websites or in Caldwell (2006) or Caldwell and Spinks (2008).

The Networked Learning Communities project in England was established and supported by the National College for School Leadership (NCSL) from 2002 to 2006. It

involved 134 networks of schools with approximately 35,000 teachers and 675,000 students. Evidence of impact was cited above. The project was extensively researched and details are readily available at www.ncsl.org.uk/networked/index.cfm

The Specialist Schools and Academies Trust in England (www.ssatrust.org.uk) has created three kinds of networks to support secondary schools adopt one or two curriculum specializations. More than 90 % of about 3,100 secondary schools are part of the program that also involves schools forming a partnership with a business related to the area of specialization. While there is debate about the scale of the impact, there is agreement that specialist schools out-perform non-specialist schools in examination results at Year 10, with the impact greater in disadvantaged settings. The networking of schools has been identified as one factor in accounting for this impact. Three kinds of networks have been created: (1) networks of schools across the country offering the same specialization, (2) networks of secondary schools with nearby primary (elementary) schools, and (3) networks of schools in different countries with an interest in transformation – the International Networking for Educational Transformation (iNet).

The iNet project (www.sst-inet.net) now links 4,861 schools in 35 countries. These schools have an interest in transformation, defined as significant, systematic and sustained change that secures success for all students in all settings. A range of activities includes international study tours, online conferences, and publications. A 'by schools for schools' approach is evident. Most affiliated schools are from England as part of the support they receive from the Specialist Schools and Academies Trust. The largest network in another country is in Australia (www.sst-inet.com.au) originating in Victoria but now extending to other states. In addition to the aforementioned, a highly-valued activity is the structured 'learning walk' in which school leaders visit another school that models good practice. The Government of Mauritius has affiliated all of its approximately 400 schools in iNet.

More formal networks are also evident in England through the creation of federations of up to five schools. These operate in tight or loose arrangements to achieve the purpose of networks, namely, to share knowledge, address issues of common concern, or share resources. In some instances the arrangement involves a high-performing school federating with a low-performing school in an effort to raise achievement in the latter, with early evidence of success in some instances. While not strictly a federation, the Specialist Schools and Academies Trust supports partnerships of high- and low-performing schools in the Raising Achievement Transforming Learning (RATL) project (www.ratl.org.uk).

The state system of public education in Victoria in Australia has a well-developed approach to networking. Victoria is a system of self-managing schools with more than 90 % of the state's recurrent budget for schools decentralized for local decision-making. Schools operate within a strong centrally-determined framework. While they are free to secure support from a range of providers, most are active participants in district and regional networks. Network meetings here and in other places have traditionally involved the routine sharing of information but now have a much stronger focus on building capacity to raise levels of achievement. The Australian Capital Territory contains a notable example of sustained networking, now extending over 12 years. Schools in the Lanyon network engage in an annual cycle that commences with a retreat of leaders from participating schools at which priorities for the network are set. Different schools take responsibility for meetings of all staff in every school held on five occasions

throughout the year where the findings of school-based projects on topics of high priority are shared.

Two features of each of these practices are also noteworthy. One is that a new kind of system leadership is emerging (Hopkins, 2007). Traditionally, a system leader held a formal position of authority in a hierarchically organized system of public education. The new view of system leadership applies to leaders in schools who take responsibility, either formally or informally, for what occurs in a network or federation of schools. For example, schools in a federation in England often have an executive principal who has responsibility for two or more schools, each of which has its own principal. The second feature relates to the traditional notion of a community of practice (Caldwell, 2008). Under new arrangements described above, the community may be a network of schools, either in the same geographic location or having the same field of specialization or, in the case of iNet, having a common interest in transformation but located in different countries.

A broader framework

Our further work suggests that networks and networking should be included in a broader framework for achieving the transformation of schools. They should be seen as examples of approaches to build the intellectual, social, spiritual and financial capital of schools. We have gathered evidence in six nations about how this can be achieved in the recently-completed International Project to Frame the Transformation of Schools, funded by the Australian Government and Welsh Assembly Government (Caldwell and Harris, 2008, forthcoming).

The purpose of the project 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. It called for a deeper exploration of the model in Figure 1 (Caldwell and Spinks, 2008). Particular attention was given to secondary schools in systems where there was a relatively high level of school autonomy.

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.

An innovative approach was utilised in the development and enrichment of the model which occurred over three years from 2005 to 2008. This included case studies (49), master classes (4) and workshops (60) involving school and school system leaders in 11 countries where there was an agenda for or interest in transformation and where schools had a relatively high level of autonomy. Forty of the 49 case studies were contributed by

school leaders in 13 of the 60 workshops. Several workshops were incorporated in conferences and postgraduate programs in leadership and management.
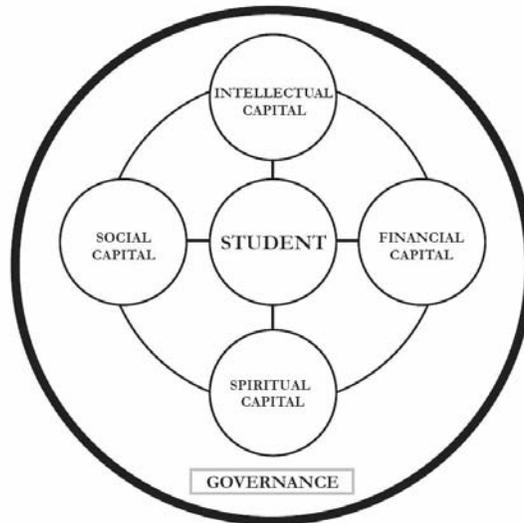

Figure 1 Alignment of four kinds of capital for the transformation of schools

There were two stages in the project. The first called for a review of literature on the four kinds of capital and how they are aligned through effective governance. An outcome of the review was the identification of 10 sample indicators for each form of capital and for governance. The second called for case studies in five schools in each country.

The 50 indicators – 10 for each kind of capital and for governance – are listed below. Those with an asterisk (*) were illustrated in each school in each of the six countries. Indicators marked with a hash symbol (#) were illustrated in the majority of schools. The remainder were illustrated in at least one school. Several indicators (italicized) – a total of 27 indicators – refer explicitly to or imply a high level of networking.

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 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*

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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

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 programs of the school*
2. *There is extensive and active engagement of parents and others in the community in the educational program 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*

Financial Capital

1. *Funds are raised from several sources including allocations by formula from the public purse, fees, contributions from the community, and other money raised from the public and private sectors*
2. #Annual planning occurs in the context of a multi-year development plan for the school
3. #The financial plan has a multi-year outlook as well as an annual budget
4. *Allocation of funds reflects priorities among educational needs that take account of data on student achievement, evidence-based practice, and targets to be achieved
5. *There is appropriate involvement of stakeholders in the planning process*
6. *Appropriate accounting procedures are established to monitor and control expenditure
7. #Money can be transferred from one category of the budget to another as needs change or emerge

8. Actual expenditure matches intended expenditure allowing for flexibility to meet emerging needs
9. #Educational targets are consistently achieved through the planned allocation of funds
10. The funds from all sources are sufficient and sustainable to meet educational needs

Spiritual Capital

1. *#There is a high level of alignment between the values, beliefs and attitudes about life and learning held by the school and members of its community*
2. *The values and beliefs of the school, including where relevant those that derive from a religious foundation, are embedded in its mission, vision, goals, policies, plans and curriculum
3. *#The values and beliefs of the community are taken into account by the school in the formulation of its mission, vision, goals, policies, plans and curriculum*
4. *The school explicitly articulates its values and beliefs in publications and presentations*
5. *Publications and presentations in the wider community reflect an understanding of the values and beliefs of the school*
6. *#There are high levels of trust between the school and members of its community*
7. *#Parents and other stakeholders are active in promoting the values and beliefs of the school.*
8. *The values and beliefs of the school are evident in the actions of students and staff.
9. Staff and students who are exemplars of the values and beliefs of the school are recognised and rewarded
10. The values and beliefs of the school have sustained it or are likely to sustain it in times of crisis

Governance

1. *Authorities, responsibilities and accountabilities of the governing body and professional staff are clearly specified
2. Mechanisms are in place to ensure that obligations in respect to legal liability and risk management are addressed
3. *There is a clearly stated connection between the policies of the school and intended outcomes for students
4. *#Policies have been prepared after consultation with key stakeholders within the school and the wider community*
5. #Policies have been formally approved by the governing body
6. Policies are consistent in their application across the school so that students with the same needs are supported in the same manner
7. *Data are used in making decisions in the formulation of policies and making judgments about their effectiveness
8. *Data are gathered across the range of intended outcomes
9. *#Information about policies and their implementation is readily available to all stakeholders*
10. *#There is a strong sense of commitment to policies and their implementation on the part of all stakeholders*

Conclusion

It is concluded that the networking of schools to share knowledge, address problems of common concern or share resources is one strategy among many in efforts to improve the performance of schools. It is an important if not necessary strategy as schools become more autonomous and become less dependent on traditional sources of direction and support. The latter continue to be important; indeed, many systems of education are becoming more adept at creating networks that focus on building the capacity of schools to lift their performance. Expressed another way, horizontal approaches to sharing knowledge are as important as vertical approaches in efforts to achieve the transformation of schools. Non-public or private schools that are not part of a system should network if they are to build and maintain their intellectual capital. Like autonomy itself, there is a trend to networks and networking and there is evidence of a positive impact, but there is a need for further and deeper research on the contribution they make to lifting the performance of schools.

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