

# Networking – Weaving the net; gathering the pearls



A research report prepared for the ASB/APPA Travelling Fellowship Trust following a study tour and sabbatical in 2014

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## Abstract

Networking in education is not a new idea. It is not a new practice in New Zealand, or in other countries. It is something done at macro levels, across countries, across regions and across cities as well as at the more micro levels, across districts, across clusters of schools and across classrooms within schools themselves. Networking is based on the premise that by working together, learning will be more effective in supporting more learners to achieve success, than by working alone.

The purpose of this study was to learn more about networking by going to a range of first world countries where examples of effective networking have been championed by international academics and education leaders. The goal was to find out more about how these networks developed and what it was that had made them so successful. Countries visited included Singapore, England, the Netherlands and three provinces in Canada – British Columbia, Alberta and Ontario.

What was found was that networks in every country visited had similar attributes, faced similar challenges and were reliant on similar factors to ensure success in achieving their vision and goals. In this report these factors have been defined and explored as principles of effective networking.

Differences found in networks and networks were also explored. Some of the differences found in network goals, structures and outcomes could be linked to differences in education system organization; the layers with an education system, the roles of educators within each layer, the ways in which systems influenced how networks were developed and strategic resourcing. Other differences found were linked to cultural values and beliefs about the purpose of education. In the report these dimensions of networking have been discussed under headings of 'Systems of Collaboration' and the 'Culture of Collaboration'.

It is hoped that information from this study will be useful for principals and education leaders in the New Zealand context, as they navigate the complexities of developing 'communities of learning', within their schools and across schools, in order to support **all** students to achieve success in learning. If New Zealand principals are to lead a world class education system, collectively, the process of developing a long term, shared vision for education in New Zealand needs to begin. Different types of networks need to evolve to support implementation of the vision through stages of network development, using collaborative strategies that are evidence-based, adaptive, responsive, creative and innovative. It is a time for courageous leadership.

Together, we can do it better.

# Contents

- Abstract.....3
- List of Tables ..... vii
- List of Figures ..... vii
- Acknowledgements..... viii
- Background..... 1
  - A national strategy and a practitioner’s road ..... 2
  - The study ..... 3
- Gathering the strands: Literature and context .....4
  - Introduction ..... 4
    - An overview of networking in different education systems ..... 4
  - The national context..... 5
    - Networking and networks in New Zealand ..... 5
    - New Zealand cluster initiatives ..... 5
    - Summary ..... 7
- Improvement and innovation ..... 7
- Definitions ..... 8
- Principles of effective networking..... 8
  - Moral purpose ..... 8
  - Relationships..... 9
  - Evidence-based pedagogy ..... 10
  - Leadership..... 10
  - Capacity and engagement levels ..... 11
  - Backbone support and resourcing..... 12
  - Summary ..... 13
- Types of networks..... 13
  - Network structures ..... 14
  - Leadership network classification framework ..... 15
  - Bounded and unbounded networks ..... 16
- Systems change – what will work better? ..... 16
  - Vertical partnership vs. horizontal partnerships ..... 18
  - The drivers of change..... 19
  - The role of technology ..... 20
  - The context of change..... 21
  - Drivers of change: Who should it be?..... 22

Network leadership.....	22
Cultural capitalism .....	23
Joint collaboration: Growing capacity .....	23
Professional development opportunities.....	23
Professional capital .....	24
Summary .....	25
<b>Network evaluation .....</b>	<b>26</b>
Measurement fit for purpose.....	26
Impact assessment.....	26
Social network analysis .....	27
Macro evaluation processes: Outcome mapping.....	27
Collective impact evaluation .....	29
Structures supporting development.....	30
Stages of development.....	30
Summary .....	30
<b>Readiness for systems change .....</b>	<b>31</b>
<b>Summary.....</b>	<b>32</b>
<b>Weaving the net: Gathering the pearls.....</b>	<b>33</b>
Systems organisation .....	33
Networking at different levels of the system .....	33
‘System-ness’ and incremental improvement .....	33
‘First wave’ and ‘second wave’ change .....	34
Building capacity focused on learning .....	35
Networking within networks .....	35
The challenges of ‘system-ness’ .....	36
Mobilisation of knowledge .....	36
<b>Networking for sustainability .....</b>	<b>37</b>
Developing a culture of collaboration .....	38
<b>The purpose of networking.....</b>	<b>39</b>
Moral purpose and a plan.....	39
Moral purpose and sustainability .....	39
Moral purpose and leadership .....	40
Alignment of network and school priorities .....	41
Layers of networking .....	41
<b>Different networks; different structures .....</b>	<b>41</b>
Drivers for change .....	43
Principals leading principals – the motive is key.....	44
Professional development at systems levels .....	45

Network leadership skills .....	46
Network resourcing .....	46
Time .....	46
Space .....	47
Resources .....	48
Flexibility in resourcing .....	48
Evaluation of network effectiveness .....	49
Summary.....	50
The net is woven: Reflections and implications for principals .....	51
Principles of effective networking .....	51
A system of collaboration .....	51
A culture of collaboration .....	52
The moral purpose .....	52
Context matters .....	53
Relationships matter.....	53
Network leadership matters.....	54
Teachers matter .....	55
Resourcing .....	56
Evaluation.....	57
Harvesting the pearls – Recommendations.....	58
Implications for policy .....	58
(a) A shared vision.....	58
(b) System-ness .....	59
(c) Culture of collaboration .....	59
(d) Leadership .....	61
(e) Resourcing.....	60
(f) Evaluation .....	61
Pearls for Principals .....	61
Network Dialogue Scaffolding Rubric .....	62
Starting a network – The exploring phase.....	63
Networks in process – Developing/Deepening phase.....	66
Networks in process – Bedding down/Sustainability .....	68
Conclusion .....	70
References .....	71

# List of Tables

**Table 1.** Leadership network classification framework ..... 15  
**Table 2.** Fullan’s (2014) wrong vs. right drivers..... 20  
**Table 3.** Conceptual framework for the functioning of a social network ..... 29

# List of Figures

**Figure 1** Districtwide coherence (Fullan, 2014, p. 104 .....19  
**Figure 2** Continuum: compliance to commitment .....20  
**Figure 3** Climate of Change: levels of trust vs. levels of explicitness..... 21  
**Figure 4** Principals as levels of change (Fullan, 2014a) .....25

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# Background

We are living a time of change, complexity and challenge. Global issues, technological advances, economic, social and cultural disparity are pressures impacting on our society, our communities and our schools. As educators we are expected to be adaptive and responsive to our communities, to be innovative and creative in supporting students to achieve success, within a structured, but somewhat segmented and siloed education system, designed for the 20th century.

In 2015, New Zealand has a three-tiered education system made up of national, regional and local levels. Our system is seen to be globally unique, being based on 'self-management' and not having a district level of organisation. But, like other education systems around the world, the New Zealand system has come under increasing pressure to raise student achievement, to perform better in Organization for Economic Co-operation and Development (OECD) ratings, to make learning work for all students and to be more accountable to the communities it serves.

In attempts to make our system more efficient and effective, the national and regional levels of the New Zealand education system have been restructured several times since 2000. The Ministry of Education's efforts to make schools more accountable over the last six years has seen changes to charter and reporting requirements, the introduction of national standards, the creation of external accountability, and competition, through Fairfax league tables. To improve system efficiencies, the ministry has redefined national and regional ministry roles, changed roles of public servants working in the ministry, dismantled the advisory service and outsourced professional development to external providers. Charter schools and public-private partnership schools have been introduced in attempts to address what is not working in our public education system.

In 2013, our current education secretary suggested the role of the national office was one of 'stewardship' of the system, and that it was principals who needed to step up and 'lead'. At the end of 2013, the minister of education announced the government's flagship *Improving Education Success* (IES) policy. The proposed IES policy has been described as the biggest structural change to the New Zealand education system since *Tomorrow's Schools* in 1989. It looks to create 'communities of schools', using 'expert' education leaders to work across schools and drive systems improvement.

Underpinning the proposed changes to our education system, it is possible to identify key questions the Ministry of Education looks to address:

[“How can our New Zealand education system be reorganised to improve student learning outcomes?”](#)

[How can we utilise and 'mobilise' our effective leaders and teachers across schools, so more students benefit from expertise that is within the system?”](#)

## A national strategy and a practitioner's road

When applying for this fellowship, I had been principal at Flanshaw Road School for 10 years. For seven of these years I had also had the privilege of being part of a Waitakere Area Principals Association 'professional learning network'. The WAPA 2020 network began in 2006, in partnership with the then Waitakere City Council.

At this time, two key dilemmas had been identified by the Council. We had 34% of students in West Auckland leaving secondary school without gaining NCEA Level 2, and between 2001 and 2006 employment statistics showed 81% of advertised jobs had required tertiary qualifications.

The Waitakere City Council wanted to develop a long-term education plan for the region in partnership with education sector groups. They conducted a scoping exercise, employing a researcher to meet with education leaders in nine education sector groups. In 2007, a group of seven principals took it upon themselves to take the schooling sector data and develop a strategic plan for schools in the Waitakere Area. It was the beginning of the first phase of a long-term local network initiative, focused on *raising achievement across a region*.

As the national Extending High Standards Across Schools (EHSAS) programme was disestablished, the Waitakere City Council was dismantled and the Auckland Super-City was born, 16 primary, intermediate and secondary schools began a network underpinned by Stoll and Crandall's *Network for Learning* research. Between 2009 and 2014, WAPA 2020 grew to include 32 primary, intermediate, secondary and special schools. As a non-mandated, grass-roots and independently funded network, even now it is somewhat unique in the New Zealand context, because it grew and achieved sustainability outside of any national, regional or local education structures.

Experiences from taking on leadership roles within the WAPA 2020 network shaped my initial fellowship focus. As the goal of my fellowship was to learn more about learning networks in New Zealand and overseas, I posited the following research question:

*What can be learned from successful networking, collaboration and innovative projects, here and overseas, that will be relevant and useful for principals involved in network projects in New Zealand?*

I hoped principals would find information about networking and innovative projects that were making a difference to students' learning relevant and useful. Beyond this, it was hoped findings might inform other network initiatives, led by practitioners or through ministry-led strands of work. One month after winning this fellowship, the Ministry of Education announced their *Improving Education Success* policy, which looks to restructure New Zealand schools' networks of schools.

The audience for this report are principals across Auckland and New Zealand, as school leaders of learning. The challenge has been to synthesise and capture useful

information about networking relevant in our current context. It is hoped this report will inform principals' individual and collective decision-making around networks, networking and the development of a 'culture of collaboration' as we navigate the most significant changes in our education system since *Tomorrow's Schools* in 1989.

## The study

To find out more about networks and networking, the study was organised to include visits to countries and places that were often mentioned in international education summits, as being examples of systems and networks that were both innovative and improved student outcomes in learning. To learn with and from the international community of researchers and practitioners, with experience in networks and networking, was the goal.

Through the fellowship I met with researchers, education leaders and practitioners from Singapore, London, Taunton and Dudley in England, Zaandam in the Netherlands, British Columbia, Alberta, Ontario and Toronto in Canada and Finland. I also had the privilege of meeting with New Zealand researchers, education leaders, principals and practitioners upon my return from overseas.

Evidence gathered included a) the types of networks that operated, b) how they were established, c) how they were resourced, d) how roles had evolved within the network, e) what networks did, and f) how they evaluated their work. Sources of evidence gathered through visits to schools, district offices and universities were semi structured interviews, documentation and observations of network activities in a range of contexts and at different levels of education systems visited.

The first section of the report is a summary of some of the literature in the broad field of research on networks and networking. Principles of networking, types of networks, change management, resourcing and evaluation are some of the concepts explored in what is a broad, multi-faceted area of research.

The second section of the report summarises findings from the field trip overseas. This information has been categorised into themes that were found both in the literature and in the field.

The final section of the report highlights key findings about principles of effective networking. How to create systems support, for the development of a culture of collaboration that better supports all our students in all our schools is explored. At the end of the report there are three self-review rubrics that have been developed to support and scaffold dialogue for school leaders in forming, developing and maturing networks.

# Gathering the strands: Literature and context

## Introduction

### An overview of networking in different education systems

Networking is about collaboration. It is about connecting people in new and different ways, ultimately to create a world we want to live in. It is seeing the world as a series of complex relationships and networking as the process of trying to make sense of that complexity, as we work towards achieving more, together.

Education networks around the world come in many shapes and sizes. They vary in purpose, membership, sectors represented, geography, size and resourcing. Networks can have many members who enter and exit the network as it works towards achieving a common purpose. Organisations within the network provide the platforms for different stakeholders to make connections, to engage in joint inquiry, and to create new learning.

Since the 1990s, first world countries around the world have encouraged schools to work together as professional learning communities to support improvement and innovation in education (Cochran-Smith & Lytle, 1999; Louis & Kruse, 1995; Wenger, 1998). It was hoped these learning communities would provide opportunities for collaborative work, to develop strong teaching and learning practices and to use data to evaluate progress over time (Newmann, King, & Youngs, 2001).

More than this, networked improvement communities have focused on activities that help them learn more and learn faster. Research carried out through networks, as opposed to individual organisations, is seen to be a source of innovation, a way to solve difficult problems and a way to turn individual school efforts into tested, collective knowledge for improvement (Bryk, Gomez, & Grunow, 2011). To what extent quality outcomes can be replicated, or scaled up, under diverse conditions is the ultimate goal of this systems approach to improvement.

In many Western countries, schools' main experience of networking has been working with other schools in pre-determined district networks. District policies and goals are typically set by a district board, disseminated to school leaders, who, with other leaders and external facilitators then create opportunities for collaborative learning as they work to achieve these goals.

Research has shown the impact of purposeful, collaborative professional development is a feature of how the world's best school systems go from good to great (Mourshed, Chijioki, & Barber, 2010). As a result of this research, many countries including Australia, the United Kingdom, Canada, the Netherlands, America and now New Zealand, are focused on the notion of networking as a systems lever for improvement.

Hargreaves (2011) describes collaborative capital as “a state where strategic alliances between schools are commonplace, where ... the principles and practice of system leadership are widely shared” (p. 26). He suggests system capacity creates:

- capacity for analytical investigation;
- creative entrepreneurship – funding to sustain innovation;
- alliance architecture – capacity building functions at every level across organizations; and
- disciplined innovation (p. 26)

New Zealand has minimal experience of networks and networking compared to many first world education systems. It is the context from which the questions “Why network?” and “Why now?” have been generated.

## The national context

### Networking and networks in New Zealand

Professor Cathy Wylie’s book, *Vital Connections* (2012), provides a comprehensive overview of the history of the New Zealand Education system since 1989, the year all New Zealand schools became ‘self-managing’. In 2014, we were still the most devolved of all the first-world education systems, having no formal district infrastructure, 10 regional offices and a central national office in Wellington, that lead some schooling initiatives, liaise with schools around legislative requirements and property, providing additional support for schools, where required.

### New Zealand cluster initiatives

Since the 1990s, there have been a range of different collaborative initiatives in New Zealand. For the most part they have been national initiatives, implemented through regional ministry offices, the advisory service or by external contractors. In most instances, the contracts for the delivery of this professional development was between one and two years. Some school improvement initiatives, involving clusters of schools, ran for several years.

Initiatives have included Information Communication Technology (ICT) clusters that were made up of self-selected schools. Most valued in small, rural and more remote communities and special needs schools, ICT cluster participants were very positive about the additional resource and professional development opportunities. The dilemma with this initiative was that common goals, linked to students’ needs, were hard to establish and there was no systemic process in place to share information. When funding was withdrawn, most clusters disbanded (Wylie, 2012).

Schooling improvement initiatives were established by the ministry of education during the 1990s and early 2000s and results were variable. Between 2000 and 2007, the ministry provided professional development in Literacy, Mathematics and Assessment for Learning. In each case, groups of schools did some workshops together, but the

opportunity to discuss progress being made and/or to share or collaborate across schools, was not part of the contract structures. In most instances the contracts were for two years. Once the contract finished, the networks of schools disbanded (Wylie, 2012).

EHASAS (Extending High Standards across Schools) was another initiative where schools worked together to develop and implement individual network plans, using internal and external expertise to support the new learning. In 2009, this project funding was withdrawn as a result of Government reprioritisation (Ministry of Education Website, 2009). Timperley and Parr (2010) suggested that the cost associated with schools attempting to work together, would have been better spent within schools, where it would have directly benefited students. Because evidence was not analysed, the impact of EHSAS, positive or otherwise, is not known.

Learning Change Networks (LCN) are a more recent initiative, begun in 2013. Unlike schooling improvement projects, the LCN initiative adopted a “future-focused” approach, challenging educators to think about where students learn and how decision-making about learning occurs. This was a very different from the traditional schooling improvement approach that was focused on making changes within the classroom.

The goal of this project was to engage schools in networks, focused on developing capacity laterally and locally, rather than centrally. Involving leaders, teachers, students and parents, with ministry and university facilitators, each network has worked through a process to identify common goals linked to priority learners and barriers to learning, within the students’ learning environment. School leaders have been challenged to eliminate boundaries between formal learning (school settings) and informal learning (everywhere else) using digital medium technology to connect within and across networks at all levels (McKibben, 2014).

Like other new and innovative initiatives the first year of the LCN initiative was characterised by capacity challenges. Some clusters are now well underway, utilising knowledge and experience of networks, such as Manaaiakalani; a network of schools committed to supporting their communities, teachers, students and parents, to engage in learning through access to digital technology.

Another type of network that has been operating in New Zealand for seven years is WAPA 2020. In 2008, the Waitakere Area Principals Association, in conjunction with the former Waitakere City Council, developed a regional education initiative, focused on *raising student achievement across a region*. This was a grass-roots, bottom-up initiative that has involved more than 30 schools, funded by the schools involved, sponsors and charitable trusts.

The theory of change management that underpins the WAPA 2020 work was developed by Stoll and Crandall (2005), based on evaluations of the most effective clusters of schools in the greater London area. Stoll and Crandall created a simulation

tool to support leaders to develop knowledge of the principles of change management at a network level. Through the simulation, WAPA 2020 leaders learned there was no one way, no right way, but there were some strategically smart ways to move a network forward. In the seven years this network has operated in West Auckland, there have been continuous opportunities to share learning and build capacity at different levels. Working with a mix of internal and external providers the capacity of schools has grown; one measure being the number of schools now on four to five year Education Review Office (ERO) review cycles.

## Summary

These and other recent network initiatives, such as the Māori Achievement Collaboration, the Samoan Bi-lingual Network and the Mutukaroa Networks of schools, have all been developed to use the collective strengths of the schools, leaders, teachers and parents involved, to support students to achieve success in learning.

While all the different initiatives have experienced some measure of success, systemic networking, sustained over time, to achieve common goals has not been a feature of our *Tomorrow's Schools* education system. To shift from a culture of competition to one of collaboration, to better utilise the strengths we have within our system, to support improvement and innovation that works for all students is a new challenge in our context.

## Improvement and innovation

Improvement and Innovation have become popular term to describe and define aspirations and strategies to improve outcomes for students. At the Singapore Educational Leadership Summit in April, 2014, the focus of the event was to consider how high achieving education systems, such as in Singapore, were to keep improving and moving from 'good to great', when they were already leaders in terms of international rankings. As part of this dialogue, Professor Andy Hargreaves provided an overview of his five 'I's' for improvement in education. They were:

- Inspiration – Having a dream and shifting people's beliefs, through the articulation of a vision for a new, different and better way of learning that works for all students.
- Improvement – Working at getting better at what we do, building capacity personally, and systematically, at each level of the system.
- Innovation – Creating spaces to do something new, creative, risky and original, that supports progress in learning.
- Inclusion – Ensuring learning is inclusive of all learners and that the principles of equity, social justice reach to all students.
- Inquiry – Going past superficial learning, often associated with testing, to "deep learning" relevant to who we are and what we do.

The five 'I's' are, in effect, principles of effective change management that can be applied at a class, school, local, regional, national or international level. In the context of networking, the starting point of any effective collaboration has to be a collective vision and common purpose. The mind-set to build 'collective capacity', to improve as a group of schools, then needs a plan that includes new spaces to be creative, to try new ideas and to create joint learning. Halbert and Kaser (2013) believe emergent knowledge and new practices come from "encouraging widespread micro-innovations" (p. 13). They and others make the point that incremental improvement is the result of many small, teaching and learning innovations, that once shared, can be replicated, modified or upscaled for the benefit of more learners.

## **Definitions**

For the purpose of this study, my definition of a network was "a group of schools, or group of educators, that have worked together, to achieve better outcomes for students, over a period of time". This is because while we can learn much from networks in many different areas, such as business, sports, science and medicine, it was networks of schools, the practices of leaders and teachers and their impact on students, was the primary focus.

Most educators have had experience of working in projects within and across schools and often principals in the New Zealand context expressed the view that they are collaborative and do collaborate. For the purposes of this study collaboration was defined as "the process of sharing learning and engaging in dialogue, to create joint new learning that informs future actions focused on the learning of leaders, teachers, students and/or the wider community, over time".

Said another way, this study has been focused on effective collaboration and learning about how different networks have built capacity of leaders, teachers, schools and networks, over time, that leads to improved student outcomes.

The next section of this literature review summarises key principles that have been found to underpin effective networks.

## **Principles of effective networking**

Networked learning communities have been a feature of most first world education systems for decades. Analyses of effective networks, including large-scale network-based school reform, have identified principles to guide decision-making of school leaders at different stages of network development.

## **Moral purpose**

Networks form for many different reasons and have many different purposes. Some are short-term, with short-term goals, while others are formed with a long-term vision underpinning the work. An effective network is one that is clear about the change it wants to make. Shared moral purpose is often called different things. It can be shared

vision, shared goals, common purpose, values or moral purpose (Cuttance, et al., 2003; MacBeath, 2006). In a publication on understanding learning networks, Earl et al. (2006) defined shared moral purpose as “a compelling idea or aspirational purpose, a shared belief (a team) can achieve far more or their end users together than they can alone” (p. 3).

Niesche (2014) states school leaders have a key role to play in working towards goals of social justice. Research suggests schools continue to reinforce forms of inequality and in some cases exacerbate inequality (for example Gale & Densmore, 2000; Smyth & Wrigley, 2013; Teese & Polesel, 2003).

Academies and charter schools in the US and England have shown that policies focused on school autonomy and privatisation have not increased school performance or achieved social justice (Lubienski & Lubienski, 2014; Ravitch, 2010; Wrigley & Kalambouka, 2012).

The co-construction of a shared purpose that is owned by all in the network is also strongly linked with success in implementing change and improvement in the literature (Alton-Lee, 2012). Because joint work is challenging, time consuming and difficult, network goals and school goals need to be clear and agreed, so work at each level can become deeper, aligned and not be diluted with competing agendas, new initiatives and other “great ideas”. Like any strong vision, when all the stakeholders know it, can articulate it, believe it and work towards it, the likelihood of achieving success is greater. City, Elmore, Fiarman, and Teitel (2009) suggest that collaborative work by teachers is not enough on its own to lead to changes in teacher practice and student outcomes and that it needs to be part of whole-school and large-scale organisational change, driven by moral purpose.

## Relationships

Another principle of effective networking is the development of relational trust. Research is clear that the development of relational trust is critical to learning at any level of the system because powerful learning involves social, personal, emotional, conceptual and ethical dimensions (Robertson & Murrphy, 2006). It involves suspending judgement, challenging assumptions and seeking new information to develop new understanding. Relational trust is the precursor to sharing different perspectives, values and beliefs, seeing problems as learning opportunities, being honest, being receptive to feedback and dealing openly with conflicts (Alton-Lee, 2012; Notman, 2014; Robinson, 2008; Temperley & Goddard, 2006).

Researchers also agree that relationships and collaboration alone are not enough to make a difference for students and that the goal of developing strong relationships in networks needs to be seen as a beginning and not an end in itself. Effective networks have participants who create capacity through connection and effective joint collaboration is about building trust to share insights, challenge thinking and practices,

to bring about change that works for students. (Temperley & Goddard, 2006; Timperley Wilson, Barrar & Fung, 2007).

### Evidence-based pedagogy

Research shows that the work done by effective schools and effective networks is underpinned by trustworthy evidence (Alton-Lee, 2012). Effective networks have theories of practice they use to create alignment across the network. How the theory is interpreted and carried out in different schools may be different, but it is this that creates the coherence and the common language, that informs the joint dialogue and helps support the new learning.

Experts can provide support for network leaders at different stages of network development (Timperley et al., 2007). They help 'sharpen the lens,' provide different insights and bring new knowledge to the dialogue. There are many theories of practice—future focused learning, assessment for learning, authentic learning, modern learning practice, co-operative learning, discovery learning, mind-set learning, student-centred learning, flipped classroom learning, inquiry-based learning, to name a few. How a network develops a strategy that is focused on improving student success, then a process of development, implementation, monitoring and evaluation, while also attending to leadership development, teacher development, student engagement and community engagement, is the challenge.

Over time, as a network moves from exploring and developing stages to deepening and sustainability needs will change, so different types of expertise will be needed to guide decision-making (Stoll & Crandall, 2005).

### Leadership

Formal leaders' involvement and participation in learning networks matters (Robinson, Hohepa, & Llyod, 2009; Stoll, Bolam, McMahon, Wallace & Thomas, 2006). Research suggests that principals and senior leader's engagement is needed for a range of reasons. Principals are needed to make links between network goals, as they align with individual school goals. Principals and senior leaders are the people who can make strategic, organisational and structural changes to accommodate network activities. Through this process, leaders create coherence and help people working at different levels understand how all learning activities are linked at systems, network, school, class and individual level.

Evidence from large-scale network analysis shows the involvement of formal leaders has a positive correlation with student learning and attainment. Formal leaders that model networked learning demonstrate their commitment and make visible what they value. When leaders invest in a network, they also create opportunities for others in their schools to do the same.

Temperley and Goddard (2006) suggest that leadership in effective networks is not connected to role or position, but to activities and practices. Using a distributed

leadership model, new and different leadership opportunities can be created within and across schools for leaders at all levels. Examples of these include subject experts, pedagogy experts, assessment experts, facilitators, presenters, coaches, mentors, programme designers, ICT leaders, student leaders, parent leaders and evaluation experts. Teachers also have leadership influence through ongoing, deep dialogue with colleagues about change and improvement in classroom practice.

Deliberate practice, reflection and learning in environments where all adults are learners and student success is the focus, are key characteristics of effective networks (Fullan, 2013). Through the development of capacity of leaders, 'internal accountability' to members of the network can develop, that further strengthens the collective impact of the network.

Hargreaves (2011) states that:

The idea of system leadership has mainly been used in England to explain the role of national and local leaders of education (NLEs and LLEs respectively) who have an exemplary reputation as school leaders and are willing to spend time working with and in another school that is seriously underachieving and/or in difficulties. The essence of system leadership is that such a leader is committed to the success of all schools and their students, not just the leader's own, and is willing to act on that commitment by working with others so that the whole system benefits. A self-improving school system requires that all leaders in the school system adopt the philosophy and practice of system leadership. (p. 24)

Network skillsets, attitudes and knowledge, are another dimension of leadership capacity to be developed. Just as team leaders do not automatically know how to lead school-wide, nor should we assume school leaders automatically know how to work across schools, with other leaders, on sustained, long-term learning-focused goals.

### Capacity and engagement levels

Development of capacity is strongly influenced by levels of engagement in networks. When setting up networks, taking time to understand individual schools' histories, current capacity levels in different areas, systems and structures is important, as this information will influence engagement levels across networks. Crandall and Stoll (2005) show that schools that make strong participant connections at different levels of a network, are more likely to have a positive impact on students.

Issues of time, release and workload are barriers to network engagement, particularly in smaller schools. Because the research show a positive correlation between the numbers of people involved in network activities and the impact on students, how to support breadth and depth of engagement in networks is a worthwhile challenge for leaders to problem solve, so all schools access network opportunities.

Linked to this, is the notion that professional capital, the process of developing high quality leaders and teachers, involves having access to quality professional

development, through networks, that maximises learning and improvement (Hargreaves & Fullan, 2012). Said another way, leaders and teachers engagement in network activities develop capacity. Hargreaves and Fullan (2012) argue that the development of professional capital is a collective responsibility, underpinned by continuous improvement, with the aim of producing educators that

...become smart and talented, committed and collegial, thoughtful and wise. Their moral purpose is expressed in their relentless, expert-driven pursuit of serving their students and communities and in learning, always learning, how to do that better.” (para. 11)

Other research suggests teachers need to be centrally involved in planning and implementation of reforms, because it is this that creates shared ownership of the improvement goals. Improved pedagogy that works for diverse learners is a key lever for positive change (Rawlins, Ashton, Carusi & Lewis, 2015; Alton-Lee, 2012).

### Backbone support and resourcing

Networking requires resourcing. Initially, when in the exploring phase of network development, developing a shared purpose, establishing protocols, processes, pedagogical approaches, roles and then communicating with stakeholders, backbone costs can be minimal. But networks require a co-ordinating hub to operate effectively (Bryk, Gomez, & Grunow, 2011). Core functions of the hub include the collection, analysis, and sharing of data across the network. They could also include communication, administration, organising professional learning and opportunities to collaborate and sharing information to all stakeholders within and beyond the network.

How schools manage time, space and resourcing issues to fully support network activities is an issue for all networks. They all have implications for budgets, staffing and individual school priorities. Of these, the most critical is time. Network activities cannot be an “add on”. If they are to be part of every school’s work, how to release teachers and leaders to engage in joint collaboration needs to be strategically resourced. The development of virtual libraries, online spaces and technology to support network endeavours are all functions of effective networks that could be considered as networks mature.

At different stages of development, networks may also need access to different types of external expertise. Initially, gathering information from existing networks to inform the establishing the network or access to pedagogical expertise may be a requirement. An external expert to oversee the development of a strategic network plan and an annual plan of work may be needed. As networks become more established, ways to assess progress towards goals, to inform next steps, will require different types of data to be collected, collated and analysed. Expertise in network analysis of data and how it links to school data may be required. In mature networks, development of new network tools may be needed. While expertise may be grown within the network, effective networks will access external expertise, to support different stages of development (Timperley et al., 2007).

## Summary

When setting up networks the purpose of the network needs to be clear. A shared vision and shared goals need to be developed by key participants that are aligned with personal beliefs and individual school goals, as well as network goals. Time to build relationships is important, as it is the strength of the relationships that will determine the levels of commitment for network activities and the quality of the joint learning that happens over time. Strong networks have many participants at many different levels. While leaders have an important role to play, it is critical to involve teachers in the planning of network activities, as it is at the classroom level that innovation and improvement happens. Resourcing to make network activities “part of” not “as well as” daily work happening in schools is essential, if network priorities are to be sustainable.

Effective networks need to be focused on goals that are about making learning work for every child, in every school.

Having discussed key principles of effective networking, the next section discusses different types of networks that operate and how they are structured to work in different contexts.

## Types of networks

There are many different types of networks operating at different levels in education—local, district, regional, national and international. As practitioners we will have all been part of different types of networks for different purposes at different times in our careers. Some of these networks will have been short-term, focused on a specific purpose; other networks will have endured over time, such as Auckland Primary Principals’ Association, because of the purpose they serve and the value they have for individuals, the collective group and the broader education landscape.

Choices about how a network is formed and developed primarily come from the purpose, goals, intended impact or theory of change. They can be made up of individuals, organisations or both. Some networks will have members from a single sector such as education. Others will span different sectors. Some will be geographically based; others will have members in different locations or areas. They can be small or large. They may derive funding from members, from local, regional, national, public or private sources.

Because every network is different, structures of networks are also different. Some structures are imposed upon networks because they are parts of larger systems. ‘Top-down’ structures are implemented, monitored and evaluated. Other networks develop in more organic ways from the ‘bottom up’, in response to a specific need, with input from participants and stakeholders. Some networks evolve and change their structures based upon the priorities of the members that make up the group over time.

## Network structures

Hannon, Gillinson, Shanks, and Reza (2013) suggests networks fall into one of four different types of network structures.

- a) High STRUCTURE with little freedom
- b) Medium STRUCTURE with some freedom
- c) OPEN SPACE with some structure
- d) OPEN SPACE with little structure

These categories can be used at a macro level to describe 'systems approaches' to education in different countries. Countries like Singapore, Korea and Hong Kong have developed highly structured education systems, where networking is part of a system managed by the state. Jensen, Sandoval-Hernandez, Knoll and Gonzalez (2012) describe how these countries have focused strongly on teacher practice, mentoring, feedback, research and sustained professional development. Research by Darling-Hammond, Wei and Andree (2010) showed Singapore's teacher-led professional networks was characterised by "reflection, dialogue and action research" (p. 6).

In countries like Canada, Australia and England, networks are integral parts of national, regional and district levels of education, with decisions about how they operate made by leaders at different levels of the system. Networking decisions can be made at provincial, district or local level, so vary within and across countries.

One example of this is in England, where in some districts, education leaders are employed by the District Board to support networks of schools, while other districts provide financial resource to groups of schools to self-manage their networks. There are a range of formal and informal arrangements made between principals, between school governing boards, districts and regions that are developed to meet the needs in the local context (Matthews, Higham, Stoll, Brennan & Riley, 2011). Changes in national policy can also impact on how networks operate, but in these countries, at each layer of the system, improvement is designed to be incremental, where the "slow hunch" matures and connects to grow and develop into ideas that come to assume significance (Johnson & Kardos, 2007).

By comparison, open space networks, with some structures and open space networks with no structure, describe most of the networks found in New Zealand, one of the most devolved education systems in the world. In our context, networks that exist, or have existed, are generally characterised by their voluntary and short-term nature. In Alberta, Canada, each district of schools is given funding from the province to use to develop three year innovation projects. Now in the fourth three-year cycle, this network approach is positively linked with improvement in student achievement.

Open space networks are found in all countries, but perhaps describe pockets of innovation that are parts of, or outside of, traditional education systems. These types of networks are more typically associated with experimental, innovative, radical

practices. One example of this type of network is the ‘i-Zone 360’ programme in New York (Hannan, Patton, & Temperley, 2011). Examples of open space networks with no structure can be found in online education forums that cross all traditional boundaries and structures.

At a local level, when developing a new network, the purpose of the network will influence the type of structure the network adopts. Hannan’s four network structures provide a useful starting point when beginning a network, or when analysing why an existing network structure is as it is, and the extent to which the structure is supporting the goals of the group, or not.

### Leadership network classification framework

Another framework that clarifies types of network structures is the Leadership Network Classification Framework developed by Hoppe and Reinelt (2010). The characteristics of four types of leadership networks are described in Table 1.

**Table 1.** Leadership network classification framework

Types of networks
<p>a) <b>Peer leadership network:</b> A system of social ties among leaders who are connected through shared interests and commitments, shared work, or shared experiences. Leaders in the network share information, provide advice and support, learn from one another, and occasionally collaborate together. Peer leadership networks provide leaders with access to resources that they can trust. Leadership development programmes often seek to create and catalyse peer leadership networks to expand the trusted ties that leaders have with one another. At other times, peer networks emerge when leaders with something in common find personal benefit in sharing and connecting their experiences.</p>
<p>b) <b>Organisational leadership network:</b> A set of social ties that are structured to increase performance. These ties are often informal and exist outside the formal organisational structure, such as when a teacher seeks advice from a colleague other than her team leader to help solve a problem more quickly. At other times, teams or communities of practice are intentionally created to bridge silos within organisations that interfere with performance. At the inter-organisational level, leadership networks support organisations with shared interests to produce a product or deliver a service more efficiently.</p>
<p>c) <b>Field-policy leadership network:</b> A network connecting leaders who share common interests and who have a commitment to influencing a field of practice, or policy. These networks seek to shape the environment (e.g., the framing of an issue, underlying assumptions, and standards for what is expected). Effective field-policy leadership networks make it easier for leaders to find common ground around the issues they care about, mobilise support, and influence policy and the allocation of resources.</p>
<p>d) <b>Collective leadership network:</b> A self-organised system of social ties among people attracted to a common cause or focused on a shared goal. Network members exercise leadership locally. As the number of local groupings grows and there is increasing interaction, these groups begin to align and connect to form larger networks. These networks are often rooted in a sense of community and purpose; they may be driven by a desire to achieve a specific goal, or simply by the desire of each member to belong to something larger than oneself.</p>

In the New Zealand context, two examples of peer leadership networks would include 'professional learning groups' and cluster or district principal groups. Organisation leadership networks are those that involve schools, local and regional ministry partnership projects, local principal organisations and education consultancies. Examples of field policy networks include teachers' unions and local, regional and national advisory groups. Current examples of collective leadership networks are 'learning change network' clusters, collective impact city projects, local, national and international principal groups.

Because of the different purposes, membership, size and resourcing, each of these networks has a different type of infrastructure, to maximise capacity for joint value-added work and success in achieving intended goals. But leadership represents just one dimension in an education network. If a network includes all stakeholders within school communities, along with members of other organisations, such as early childhood, tertiary, social services or health, network structures can quickly become complex.

### Bounded and unbounded networks

When designing and developing networks, that involve all stakeholders (teachers, staff, students, parents, other sector groups), a network can be 'bounded' or 'unbounded'. A bounded network is one where all the participants are known and there are clear boundaries around the membership of the network and the scope of work being undertaken. By contrast an unbounded network is one with fuzzy boundaries, where all the participants are not known (Searce, 2010).

Stability of membership is another factor that impacts upon the programme of work developed. Effective networks have a 'chain of impact' including the impact on members, the members on their local environment and the members combined impact on broader environment (Beer & Coffman, 2014). As networks evolve, boundaries can become fuzzy as more people become involved in shared learning and action. Whatever the type of network, connectivity; communication; commitment and sustainability are key to achieving results. The purpose, structure and membership of a network are important influences on how they develop and move through stages of change.

### Systems change – what will work better?

All around the world education systems have evolved, in national, regional and local contexts, within their unique cultural context. An emerging global trend that has now reached New Zealand is 'system-ness', a phrase coined by Professor Michael Fullan to describe a process of designing and building systems capacity to support student learning and student achievement. At present school leaders are discussing the merits of networks, networking, principles and structures at a local level, but there is also a national dialogue evolving around systematic networking and the process of reorganising 2,500 individual schools into 'communities of schools'.

The McKinsey Report (Mourshed, Chikioke, & Barber, 2010) has been a major catalyst for reform in countries around the world, including New Zealand. This report was the summary of an analysis of 20 education systems around the world. From it, a list of reform elements that were replicable for school systems wanting to improve their performances was created. The researchers acknowledged systems change was complex because “system starting points are different, contextual realities vary, and system leaders face multiple choices and combinations of what to do along the way” (p. 1).

Key findings of the McKinsey Report, summarised by Moursehed, Chijioke and Barber (2010) were:

- (a) A system can make significant gains from wherever it starts—and these gains can be achieved in six years or less.
- (b) Improving system performance ultimately comes down to improving the learning experience of students in their classrooms, focusing on structures, resources and process to get improvement.
- (c) Each particular stage of the school system improvement journey is associated with a unique set of interventions.

The McKinsey Report authors suggest education systems moving from ‘fair performance to good’, need to focus on establishing the foundations of data gathering, organisation, finances, and pedagogy. Education systems on the path from ‘good performance to great’ should focus on shaping the teaching profession such that its requirements, practices, and career paths.

- (d) A system’s context might not determine what needs to be done, but it does determine how it is done.

In terms of sequence, timing, and roll-out, there was little or no evidence of a “one-size-fits-all” approach to reform implementation. Interviews with system architects and leaders suggested that one of the most important implementation choices was the emphasis on mandating change versus persuading stakeholders to comply with reforms.

Katz (2014) commented that improving systems is a balance of “prescribed adequacy” that can be mandated, but the goal is to “unleash greatness” which cannot be mandated.

- (e) Six interventions occur equally at every performance stage for all systems. They are: building the instructional skills of teachers and management skills of principals, assessing students, improving data systems, facilitating improvement through the introduction of policy documents and education laws, revising standards and curriculum, and ensuring an appropriate reward and remuneration structure for teachers and principals.

- (f) Systems further along the journey sustain improvement by balancing school autonomy with consistent teaching practice.

One-third of the systems in the “good to great” journey and approximately two-thirds of the systems in the “great to excellent” journey left pedagogical decisions to the middle layer (e.g., districts or schools). To minimise variation however, mechanisms that make teachers responsible to each other as professionals for both their own performance and that of their colleagues, were put in place.

For example, these systems established teacher career paths whereby higher skill teachers increasingly take on responsibility for supporting their juniors to achieve instructional excellence first within the school, then across the system. These systems also established collaborative practices between teachers within and across schools, to make practice public, so collaborative practice becomes the main mechanism both for improving teaching practice and making teachers accountable to each other.

- (g) Leaders take advantage of changed circumstances to ignite reforms. Every system studied relied upon the presence and energy of a new leader, either political or strategic, to jumpstart reforms.
- (h) Leadership continuity is essential. Leadership was seen to be essential not only in sparking reform but in sustaining it. It was found leadership longevity was needed to embed reform and that improving systems actively cultivated the next generation of system leaders, ensuring a smooth transition of leadership and the longer-term continuity in reform goals.

Examples of the McKinsey Report strategies were seen in all the countries visited as part of this fellowship. The findings of the McKinsey Report are also aligned with the network model proposed by the “Improving Education Success” policy. Whatever models of networks are developed and do operate in the New Zealand context in the future, they will be different from what has gone before.

The key difference, in our current context is that this is a national initiative, a technical restructuring of the system, in which networks of schools become the central focus, rather than individual schools. In the process of creating formal network structures, lessons from overseas can be used to inform network development.

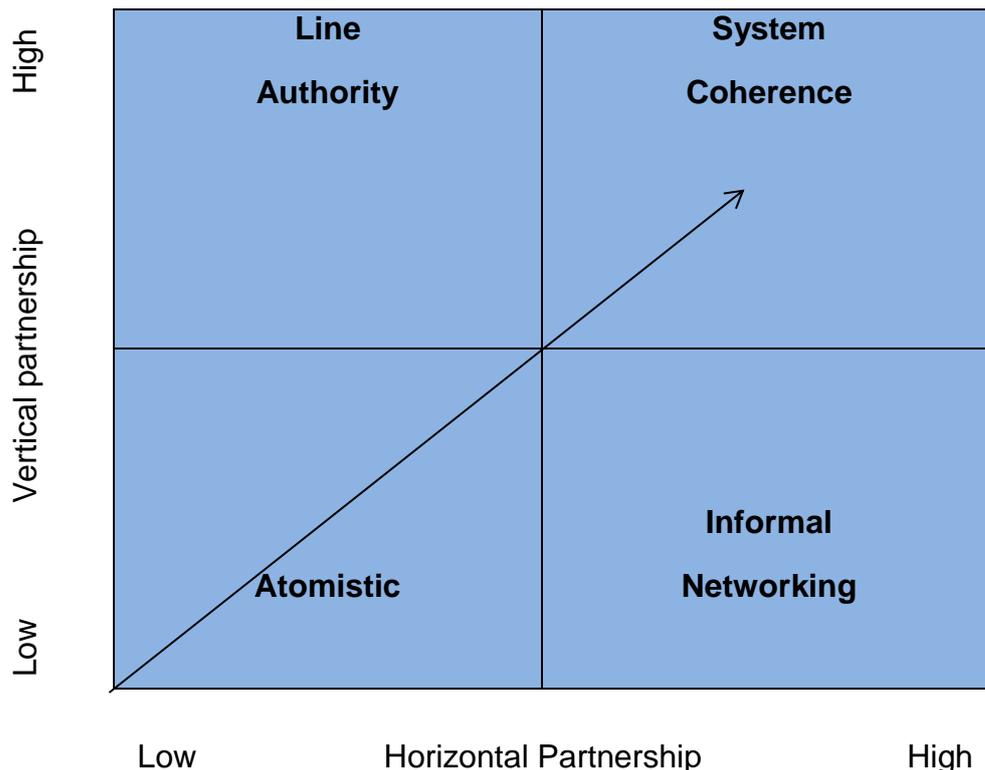
### Vertical partnership vs. horizontal partnerships

Fullan (2014) describes systems coherence as the balance of vertical and horizontal partnerships. The Atomistic quadrant in the diagram below is a system of individual schools, working independently from one another, as we do in New Zealand. Informal Networking has been characterised as school banding together informally for political or technical support. The Line authority quadrant represents a district or network of schools that have a focused learning agenda, tight capacity building, close monitoring

of results and instructionally focused principals, working to achieve district and national targets.

The ideal quadrant, System Coherence, is similar to the Line Authority quadrant, but there is more focus on lateral relationship building across schools and learning with, from and through others in the network, to achieve school and district or national goals.

**Figure 1.** Districtwide Coherence Fullan.2014, p. 104)



Fullan (2000) states that to build ‘Communities of Schools’, the support of leaders and teachers is needed, if large-scale reform is to be successful. To do this he suggests that reforms need to focus on long-term social and individual benefits. Fullan believes the quality of collaborative networking is directly linked to the quality of the learning and systems improvement, but cautions that the right drivers of change are critical to the success of systems reform.

### The drivers of change

The list of right and wrong drivers is one that has been developed as a result of watching how effective national reforms in different countries have been in achieving success in learning. Fullan (2014) articulates the differences in outcomes that right and wrong drivers of change create.

**Table 2.** Wrong vs. Right Drivers (Fullan, 2014, p..22)

Wrong	Right
Accountability	Capacity building
Individualistic solutions	Collaborative effort
Technology	Pedagogy
Fragmented strategies	System-ness

Fullan states wrong drivers appeal to systems leaders because they can be legislated for, they are seen as ‘quick fixes’ and they can have public appeal. The ‘carrot and stick’ strategy, while effective in the short-term, has been shown to demotivate people over time (Pink, 2009). Katz (2014) suggests that mandated change is the minimal requirement desired and that the improvement and innovation desired will only be achieved when there is ownership of the goal and stakeholder input into the solutions.

Offering another perspective, Fullan argues a focus on capacity building encourages people to take on additional responsibilities and to become committed to the goals, to their peers and to the system. Similarly when looking to develop capacity at leadership level for instance, he believes it is more effective to work collectively on developing capacity across schools and to create ‘pools of talent’ rather than working on individual leaders and teachers.

Fullan suggests to cultivate ‘system-ness’ is the way forward; ‘system-ness’ being commonly owned strategies in the system as a whole, which leads to collaboration and larger commitment to success. Capacity building at systems level is about establishing internal accountability, infrastructure to support local capacity building, shared metrics and transparency and selective interventions. In order to get ‘system-ness’ improvement Fullan argues we need to move people along a continuum, from compliance to commitment, through engagement.

**Figure 2.** Continuum: Compliance to Commitment



### The role of technology

Technology has enabled learning to become more personalised, more student-centred and more adaptive to learners’ needs. Technology has been used to enrich lessons, connect learners, across time and space and provided new digital tools to support

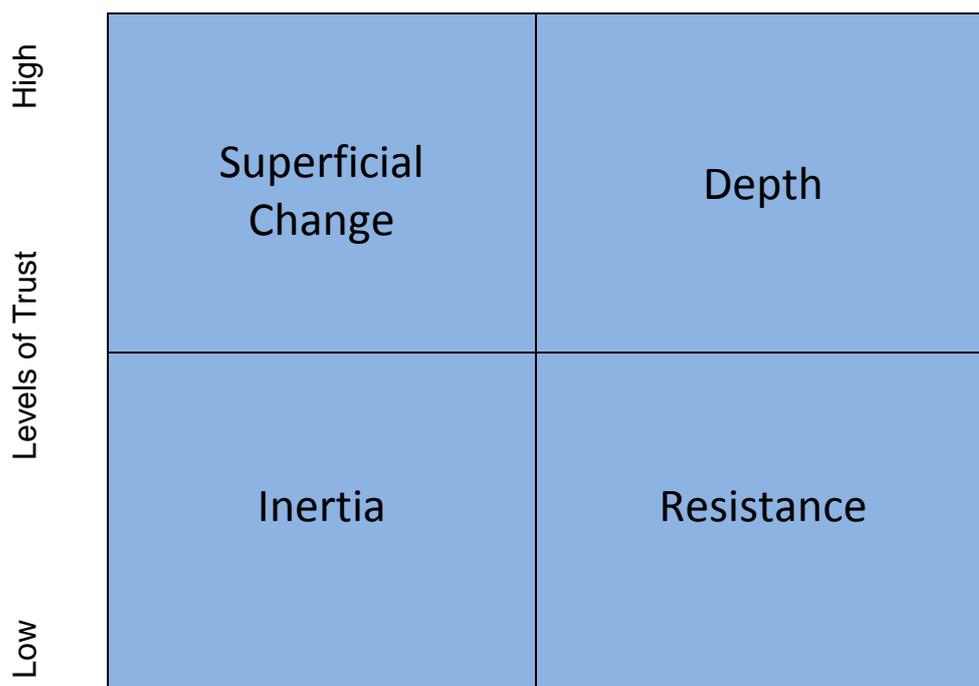
teaching and learning. Flipped classrooms, blended learning, digital medium schools, distance learning and modern learning environments are all based upon new technologies which take learning beyond the walls of a classroom, beyond school hours, beyond the school community, to the world. Networks, local, regional, national and global, in this context, have become an important tool for sharing new knowledge and good practice. In many countries formal systems to connect networks through technology are well established. Fullan and Quinn (2012) suggest a framework for systemic learning, embracing technology, would include digital citizenship, virtual learning, digital citizenship, excellence in professional practice and systemic improvement. Hargreaves and Shirley (2009) caution that technology alone cannot replace the social and relational dimensions of teaching and learning.

As we move into an education era that looks to blend formal and informal learning, to extend learning beyond traditional classroom walls, technology is a key driver of change in what is learned, how and when. How to integrate technology, pedagogy and change knowledge to support quality teaching and learning so students are motivated and engaged in the digital age is both an opportunity and a challenge, especially in the network context.

### The context of change

Change happens in a context. As well as cultural norms and societal values, the current context in a country, district or network impacts when implementing change. At a macro level, Fullan acknowledges the tension between levels of explicitness and levels of relational trust that can accelerate or stall change across a system.

**Figure 3.** Climate of Change: Levels of trust vs. levels of explicitness



Low

Levels of Explicitness

High

Where trust is high, but explicitness is low, superficial change is the result. Where trust is low and explicitness is low, inertia is the result. Where trust is low and explicitness is high, resistance is the outcome. Ideal conditions for change are where there is high trust and high explicitness, but explicitness that is the result of joint collaboration and informed decision-making.

The OECD Reviews of Evaluation and Assessment in Education: New Zealand 2011 states:

The implementation of National Standards will be difficult if concerns of schools, teacher organisations and advisory bodies are not attended to and refinements made to the framework and process of roll out. The challenge is to ensure ... that experience and effective practice from inside New Zealand's classrooms can also adequately inform the national agenda. (Nusche, Laveault, & MacBeth, 2011, p. 34)

### Drivers of change: Who should it be?

So, in terms of driving change at a systems level who does the “heavy lifting?” Is it the government focused on a culture of compliance, controlling resources and focusing on accountability and evaluation? Is it the sector, focused on the culture of learning, inquiry into practice and assessment to inform “next steps”?

Katz (2014) suggests a balance of both is needed; both the government and the profession need to own the challenges, but they have different roles in the process. It could be that the government oversees the development of system coherence at different levels, resource management and evaluation, while the profession uses their expert knowledge to create the adaptive change that will make learning work for all students (Daly, 2010).

Context locally, however, is more about leadership relationships, school and community history. Leadership in local network contexts would seem to require another skillset, in addition to that of those developed as a school leader.

### Network leadership

In literature on leadership, it is now widely accepted that school leaders have influence, second only to teachers, in the school context (Leithwood, Louis, Anderson & Wahlstron, 2004). In a network context, research findings suggest that school leaders are also critical to the success of a network (Stoll et al., 2006).

Umekubo and Chrispeels (2014) suggest that in an effective network, leaders focus on a) the quality of relationships with other principals, b) developing a common purpose, c) aligning school and network goals, d) building lateral trust, structuring time so network activities are prioritized, e) improving leadership practices and f) sharing new learning within and across schools. In this way, leaders of successful network

organisations create spaces for knowledge sharing among inquiry teams and between linked schools that amplify or extend the impact of positive change (Mitchell & Sackney, 2009).

Hargreaves and Shirley (2012) believe that systems leadership is a moral endeavour that is far more compelling than collaboration for mutual self-interest. A systems leader is focused on the success of all schools, and all students. Systems leadership is a process of developing opportunities for joint collaboration that results in incremental innovation and improvement.

### Cultural capitalism

The debate about distributed leadership and transformational leadership is not the purpose of this report, but aspects of both types of leadership are important in the drive to extend this moral purpose from one school, to many, to a whole system.

Harris and Jones (2011) suggest distributed leadership provides the infrastructure that holds professional learning communities together and makes them effective. They also argue it is the collective and interdependent work of educators at multiple levels, who are driving forward the innovative work that creates and sustains successful professional learning communities. Hargreaves suggests that “cultural capitalism” is about extending this vision to include governors, teachers, students and parents.

### Joint collaboration: Growing capacity

Through collaborative work, Hargreaves claims the opportunity for joint professional development across schools can create and enhance collective moral purpose. Sharing innovations in this type of environment results in rapid uptake, as ideas are shared from person to person and school-to-school. Knowledge and skills are readily shared, because the focus is on the collective good, not personal or individual school gain.

Timperley, Kaser, and Halbert (2014), using ‘Spirals of Inquiry’, have developed a process to develop quality joint professional development. This methodology involves a process of scanning, identifying a learning focus, developing a hunch, doing some learning to inform a plan, taking action, checking what has happened and beginning the sequence again. It is an approach can be used at individual teacher, team, leadership, school and network level.

### Professional development opportunities

In the literature, professional learning communities are effective in delivering high-quality professional development (Borko, Jacobs, & Koellner, 2010; Little, 2006). This is because, located within collaborative professional learning communities, they are sustainable over time (Stoll et al., 2006). Professional learning communities, within and between schools also help develop a clear and shared understanding of effective teaching and learning, that enhances learning for all pupils. One of the ways this is

done is for colleagues to critique practice, which grows a sense of collaborative responsibility and creates the environment where innovation and experimentation can flourish (Bryk, Camburn, & Louis, 1999; Stoll, Harris, & Handscomb, 2012).

In 2010, the United Kingdom (Creating a self-improving school system) decided to devolve the main responsibility for teacher professional development and school improvement from local authorities and other providers, to schools. Since 2010 inter-school partnerships have been established all across the country in order to create a more effective 'self-improving' system. Preskill, Parkhurst, and Juster (2014) suggest over time, the purpose and structures of networks evolve as capacity builds and that flexible and adaptive networks create and support sustainable improvement over time, rather than "quick short-term fixes".

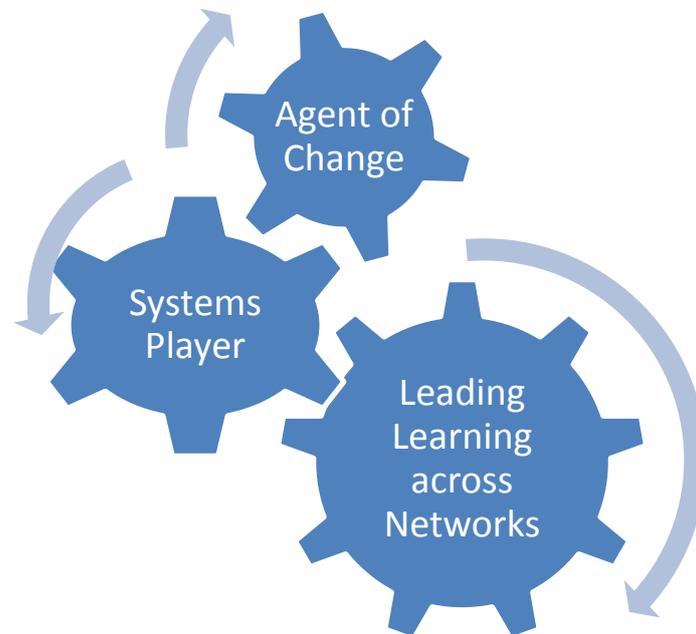
Matthews, Higham, Stoll, Brennan and Riley (2011) in a report on how to grow education leaders, saw the identification, preparation and support of leaders at different levels of the system as the most effective way to develop systems capacity. At the National College for Teaching and Leadership they have looked to build knowledge of effective leadership practices, supporting others to access this knowledge through modules of professional learning, leadership programmes, joint network and research initiatives and through championing leadership learning.

In Singapore there are three professional development pathways: master teacher, administrator, curriculum leadership and teachers can move from one to another through their careers. As in Ontario, Singaporean teachers also move back and forth between their teaching roles and positions in the Ministry of Education or the National Institute of Education. In this way, teachers and principals develop understanding and coherence of all the layers of the system.

### Professional capital

Fullan has also focused on development of leaders at different levels of the system. He claims that building 'Professional Capital' across an education system is the most effective way to bring about improvement, with principals being the key to change at three levels. Within their schools, principals model learning, participate and shape learning as an 'Agent of Change'. As a 'Systems Player', principals contribute to the system and benefits from the system. Over time, it is the principal as the 'Leading Learner' who leads other leaders to develop a deep understanding of the nature and importance of pedagogy to shape culture.

**Figure 3.** Principals as levers of change (Fullan, 2014a)



Fullan suggests that leaders of networks can ‘use the group to change the group’, so through this process, lead principals become system ‘levers of change’, as they work to strengthen professional capital across schools. Fullan (2014) describes seven skills or attributes lead principals need to lead change at network level:

1. Courage to challenge the status quo
2. The ability to build trust—clear communication and expectations
3. Skill to create commonly owned plans for success for all
4. A focus on team over self
5. Drive to create a sense of urgency for sustainable results
6. Commitment to continuous improvement for self
7. Skills to build on external networks and partnerships to lead to greater improvement

### Summary

Building systems capacity is also about building learning capacity and a ‘growth mind set’, defined by Dweck (2012) as “people with a passion for learning who thrive on challenge and change” (para. 10). Collaborative inquiry is about members of a group engaging together in challenges of practice, so understanding of the challenges grows deeper. Through investigations, proposed solutions emerge that are tested to see if they help. Through this repeated process common purpose, understanding, shared

knowledge and experience are developed. To do this well within a school is a challenge. To do it well at a systems level is more so.

How to evaluate success at a network level is an important, but is an under-researched area of collaboration. In the next section, the complexities of network evaluation are discussed.

### Network evaluation

Even researchers who have been involved in network development and sustainability for decades would agree that evaluating the effectiveness of networks is a complex process. Andy Hargreaves (2014) suggests that measuring with meaning is about collecting, collating and analysing data that a) measures what people value, b) is shared with other professionals, c) is accurate and fair, d) is broad and balanced, and e) is timely.

### Measurement fit for purpose

In education there are many different assessment tools designed to provide information. In a network, deciding what is to be measured and then how, can be a challenge. Often networks begin by using evaluation tools that are not designed for the purpose they are used. For instance, student achievement data is always going to be one of the measures of success of a student, a teacher, a school and a network. But, the dilemma with this data is that it is extremely difficult to attribute student achievement data to network activities, because there are so many possible reasons why students achieve success in learning.

Another dilemma with network evaluation is that, if a network is about developing capacity at every level, how to evaluate this requires different types of evaluation methods for different groups of people working in the network. Bryk et al., (2013) stated “You cannot improve at scale what you cannot measure” (p.8) and in a network, knowing what to measure and how requires new knowledge, different tools and different approaches to evaluation.

In social science literature, there has been a shift to focus on organisation quality, or organisation worth in terms of meeting participants’ needs, and their importance to a community or group. This type of evaluation is a values-driven exercise, rather than one driven by quantitative final outcome measures (Stufflebeam, 2007, p. 1). Daly (2010) suggests peer groups, power dynamics and the structure of relationships amongst groups can have significant impact on the success of an education reform. Similarly Robinson (2009) states that the ability to develop relational trust is a key aspect of effective leadership.

### Impact assessment

Another type of network evaluation tool is impact assessment. This evaluation involves the use of participatory research methods. Practitioners and researchers

work together as co-researchers, creating knowledge and sharing dissemination of the knowledge, or “knowledge mobilisation” (Ball & Janyst, 2008; McGregor, Clover, Sanford, & Krawetz, 2008).

This evaluation approach was further developed to include a cultural dimension in a widely acclaimed research report by McGregor, Halbert and Kaser (2013). This evaluation methodology was focused on developing ‘Culturally Inclusive Impact Assessment’ to capture the richness and detail of network projects that had involved First Nations students.

The research involved using a narrative approach as part of the network research evaluation methodology. Data sources were focus groups and interviews and evidence was analysed and evaluated around scope, depth or breadth of impact in five categories: a) leadership, b) culturally inclusive education, c) nested, inter-connecting learning systems, d) integration of Aboriginal Enhancement Agreements into school and district practices, and e) building self-esteem and self-acceptance among Aboriginal and non-Aboriginal students.

There were three categories of impact: potential (considering change), initiated (frequency of engagement that is shifting context, process or practice), and sustained (transformation of context, process, or practice) that were used to evaluate the impact of the different initiatives in each of the five categories above. Findings included both narrative stories in addition to a synthesis of other data sources. The rubric was an example of an evaluation tool designed to better understand the complexity of network endeavours and their impact on stake-holder groups.

### Social network analysis

Another process used to measure the impact of a network is social network analysis (SNA). This is a set of theories, tools, and processes that have been developed to understand the relationships and structures of a network. The “nodes” of a network are the people and the “links” are the relationships between people. Nodes are also used to represent events, ideas, objects, or other things. SNA practitioners collect network data, analyse the data (e.g., with specialist SNA software), and often produce maps or pictures that display the patterns of connections between the nodes of the network (Hoppe & Reinelt, 2010).

### Macro evaluation processes: Outcome mapping

At national and international levels, the dilemma of how to evaluate the impact of networks is another relatively new area of research. The International Development Research Centre (IDRC) developed guidelines for assessing national and international networks in 2001. The result, ‘Outcome Mapping’, is focused on assessing outcomes as changes in behaviour, activities and relationships, and on systematically recording signs of those changes against desired progress. (Wilson-Grau & Nuñez, 2006). Indicators of change are developed in consultation with members so they build

capacity to recognise and record changes. Dimensions of change include “communication practices, network activities, relationships, structures, resourcing and sustainability” (p. 3).

The IDRC guidelines include the following dimensions for self-review:

1. Effectiveness: Are the network’s goals and objectives clear and are they being achieved; is the network fully realizing the advantages of working together? Is the knowledge being produced relevant to the needs of decision-makers and stakeholders?
2. Structure and governance: How is the network organized and how is it taking decisions on its work? Are structural and governance issues impeding its effectiveness?
3. Efficiency: Are the transactional costs of collaboration a significant barrier to success? Is capacity being built across the network to strengthen members’ ability to collaborate?
4. Resources and sustainability: Does the network have the required resources to operate?
5. Life-Cycle: How is the network performing in comparison to other networks at similar stages in development: what is the continuum of growth of the network?  
(p. 2)

While developed for use in a national or international context, the dimensions above are another example of the type of evaluative lens that could be used to assess the strength and sustainability of a network. All networks have to be useful to their members and within any network there will be different interests, different needs, different experiences and outcomes, for individuals and as a collective.

Below is another example of generic criteria for network evaluation (Wilson-Grau, & Nuñez, 2006). It provides a framework that could be adapted and used by networks to measure the quality of their network, realising that different dimensions will be more or less important to different networks, depending on how they operate, their purpose and what they want to assess. These could include internal and external outputs, changes in behaviours, actions and relationship development that will strengthen collective capacity. As a result of network evaluation, it is possible network activities will influence other networks and at different levels of the education system.

**Table 3.** Conceptual framework for the functioning of a social network

Quality Criteria	Operational Dimensions		
	Purpose and strategies	Organisation and Management	Leadership and participation of stakeholders
Democracy – equity in relations and power	Vision	Structures for coordination and facilitation	Democratic leadership that creates “added value” through involvement and commitment to the vision and quality criteria
Diversity – common purpose: different contexts, different strategies	Core values	Operational management to enhance collective, democratic, horizontal and diverse activities	Involvement of all stakeholders – providing opportunities and time to collaborate, funding, to grow commitment and trust
Dynamism – enthusiasm, energy created through individual and collaborative activities	Purpose	A continued focus on capacity building	
Performance – based on quality relationships that produce quality outcomes	Strategic plan	Communication that promotes social mobilization, provides technical, professional and financial support and involves external participants	Leadership that facilitates both internal capacity building and external input

### Collective impact evaluation

Finally, the Collective Impact Forum context, focused on groups from different sectors (like vertical groups) committing to a common agenda and using a structured approach and a joint approach to problem-solving, has relevance for network evaluation in the New Zealand context. This is because networks could involve across sector organisations (e.g., ECE, primary, intermediate, secondary, tertiary), different organisations (e.g., Non-government organisations, businesses, government), specialists (e.g., researchers, environmental organisations) and virtual or face to face (e.g., local, regional, national, on-line communities) members.

The key to the success of Collective Impact initiatives is to understand that continuous learning is critical to success – and that leaders need to monitor changes in context, conditions and circumstances; to embrace curiosity and seek opportunities for learning, to openly share and be willing to adapt strategies in response to evolving environments. This is because, in a Collective Impact initiative:

Learning is an active and applied process: its goal is not learning for learning's sake, but learning for the sake of improved effectiveness (Preskill, Parkhurst, & Juster, 2014, p. 8).

### Structures supporting development

All collective impact projects have backbone organisations that manage and coordinate activities, coordinate evaluations, synthesis information and communicate with all stakeholders. Differentiated participant activities take place, contributing to the common agenda. Measurement systems are created to monitor progress, alignment and to ensure all participants are mutual accountability. Through reflection, robust dialogue, the testing of assumptions and feedback participants become responsible for their own learning, for their part of the collective impact initiative and to each other. New learning, arising from joint inquiry, to achieve goals, is the desired outcome.

### Stages of development

Performance indicators are useful to monitor progress in the early stages of development but different approaches to evaluation have relevance at different stages of a change process. In the beginning years, evaluation is used to decide what needs to happen. In the middle years the question becomes "How well is it working?" and as an initiative gains maturity "What difference has it made?" becomes the focus of evaluation.

To plan for assessment and evaluation at each stage of an initiative, to have relevant information to inform strategic direction, is an important part of the planning process. This is the way strategic learning occurs and can be applied to the process of refining and sharpening the learning focus at each phase:

Strategic learning occurs when organizations or groups integrate data and evaluative thinking into their work and then adapt their strategies in response to what they learn. Strategic learning makes intelligence gathering and evaluation a part of a strategy's development and implementation, embedding it so that it influences the process. (Coffman & Beer, 2011, p. 1)

### Summary

Evaluation of networks is complex. Networks can be made up of a range of different organisations and it is the common purpose that becomes the unifying driver of network activities. Depending on what you want to evaluate different tools need to be developed and used. The type of evaluations a network engages in will change over time because, as the network evolves, the focus of evaluation changes. As was said at the outset, what researchers can agree on is there is no one way to measure the effectiveness of a network.

Globally, many countries have 'networks', 'professional learning communities' or 'communities of practice' built into their systems as mechanisms for change, improvement and innovation.

While leadership is a key element of a successful network, there are new skills, practices, mind-sets and attributes that need to be developed, as leaders engage more systemically at network level. Network evaluation is an important part of collaborative work. There are many ways this can be done and however it is done, it needs to measure what people in the network value.

In the next section, our New Zealand experience of networking is discussed, as it is the context from which this study was undertaken.

### **Readiness for systems change**

The call for a review of our current system has come from many sources. In 2002, Robinson and Timperley suggested there was a need for the Ministry to add educational value as a partner in learning, alongside practitioners, to build systems capacity, to inform decision-making across the system. The various network initiatives that have come and gone since 2000 have been fragmented and have not resulted in systemic raised student achievement.

In 2012, Wylie asked the question “If there is no new resource, how can we better utilize the resource we have?” She suggests our system needs to be reorganized into smaller regions with a network of education authorities, staffed with credible, experienced educators. The authorities would have different roles from the current regional offices and be more engaged and involved in challenging and supporting networks of schools, to raise student achievement.

Wylie also suggested we need to review our interpretation of ‘self-managing schools’ as ‘stand-alone’ schools (p. 237) and work towards developing a more co-ordinated local level infrastructure. This would enable ongoing joint collaboration to be developed, over time. Various researchers have stated this approach needs to include the teaching profession “as part of the solution, co-constructing solutions with policy makers, rather than as part of the problem” (Fullan, 2010; Sahlberg, 2011; Wylie, 2012).

Successive OECD National reports have made similar policy recommendations. In 2011, one policy recommendation was to consider establishing regional support structures to increase connectedness of schools (p. 34).

An important aspect of such a regional structure would be to establish collective knowledge-building and sharing so as to facilitate innovation and system learning. The regional support service could play a clearinghouse function ... It could support schools in effective evaluation and assessment practice, identification of priorities and strategic planning. This could be done in collaboration with non-for-profit educational advisory services, universities and centres of expertise. (p. 36)

The report goes on to discuss the role of school leaders in this new structure, based upon their experience of other education systems including Finland:

School leaders can play an important role in connecting the classroom, school and system level in the pursuit of improving student learning (Hopkins, 2008). One way of connecting schools across the system would be to use a regional support structure as platform for school leaders to share knowledge and work towards a systematic approach to evaluation and assessment. (p. 37)

In Finland, for example, an OECD case study team visited a city that had implemented a pilot programme where some principals were also working as district principals, with one-third of their time devoted to the district. Beyond leading their own school, these principals co-ordinated district level functions such as planning, development and evaluation (Hargreaves et al., 2008). Such a system requires a rethinking and redistribution of leadership structures within schools as well so that it is possible for principals to dedicate some of their time to area-wide tasks. (p. 37)

The 2011 OECD report also discussed the difficulties in creating coherence of practices and achieving systemic change across a self-managing system. In the report it was suggested that providing funding for schools to work collaboratively “would be an incentive and stimulate collegial networking, peer exchange, sharing and critiquing of practice, fostering a sense of common direction” (p. 107).

## Summary

At this time, we are on the brink of a major systems restructure. As the most self-managing education system in the first world, New Zealand is about to become a more systemically ‘networked education system’. To learn more about how networking works, particularly in countries and provinces held in such high regard internationally, was the initial goal of the fellowship.

To support principals to develop their understanding and understanding of the principles of effective networking became even more relevant, as the New Zealand education landscape changed in 2013.

In this context, I embarked on a travelling fellowship, to learn more about ‘Learning Networks’ visiting Singapore, England, the Netherlands, British Columbia, Alberta and Ontario.

The focus of the study was to learn more about effective networking, from a systems perspective, as a network participant and school leader. The next section of the report is a summary of key findings.

# Weaving the net: Gathering the pearls

Educational research can only tell us what was, not what might be. Moreover, in education, “What works?” is rarely the right question, because everything works somewhere, and nothing works everywhere, which is why in education, the right question is, “Under what conditions does this work?”

Dylan Wiliam

## Systems organisation

There are many similarities to be found in first world education systems around the world. The language of learning was similar. Pedagogical practices have been influenced by the same international researchers. Different countries had similar national and regional policies, aligned with the OECD recommendations from national reports. Assessment tools and functions were familiar, as were the challenges discussed with educators, from all levels, in each country visited.

## Networking at different levels of the system

All the countries visited, Australia, Singapore, England, the Netherlands and Canada, had national, regional and district layers built into their systems. Educators were very used to having to manage, and attend to, district priorities, provincial priorities as well as national or federal priorities.

In these systems the principal was part of the middle layer of the system, with teachers, students and parents below them and district, regional and national layers above them. Districts I visited in different countries had their own set of priorities, set by the district boards. They had strategic and annual plans that were aligned with regional, provincial and national priorities, but also were contextual in meeting the needs of the communities they served. District boards, in all instances, managed property and resourcing for different projects, human resources at district and individual school level and were responsible for teacher salaries.

In England, Singapore, British Columbia, Alberta and Ontario districts were led by well-respected and experienced educators. In the Netherlands and in England however, some district boards were businessmen and parents with specific skill-sets that had been elected by communities of schools. However they were set up, school leaders were expected to attend to and work on district priorities within their schools.

## ‘System-ness’ and incremental improvement

Singapore and Ontario were the two places visited that had the most ‘system-ness’ and coincidentally, the best record for improvement and achievement in PISA student achievement rankings. Michael Fullan, in his address at the 2014 Singapore Leadership Summit defined ‘system-ness’ as “commonly owned strategies in the system, where everyone contributes to and benefits from the system”.

Singapore, Alberta and Ontario all had long-term, twenty year national or provincial visions for education and all three systems have successfully scaled up effective network practices. Using Hannan's criteria, Singapore and Ontario started out highly structured with a focus on developing consistency and coherence, rather than freedom to create new, innovative ideas. Alberta, by comparison, had adopted an approach typified by a medium structure with more freedom. In Alberta the provincial government provided funding to districts for the purpose of developing innovative initiatives, to support student learning.

In Singapore, coherence in the system is supported by district and government education leaders who spend a lot of time in schools, working alongside principals and teachers. Schools are organized into networks of twelve to fourteen schools and each school has a full-time coordinator to run the cluster. In Singapore and Ontario particularly, researchers attribute improvement in the OECD Programme for International Student Assessment (PISA) results to incremental improvement at every level of their respective systems. Opportunities for network collaboration are integral parts of their systems structure.

### 'First wave' and 'second wave' change

In Ontario, educators described the changes they had made in their system as 'first wave' and 'second wave' change. When the York District Board developed the first 'Systems Plan for Continuous Improvement' in 2001 it was in a socio-political context of "demands for more choice, higher levels of service, innovative programs and increased accountability in public institutions" (p. 2).

In the 'first wave', principal, superintendent and district leaders worked with Professor Michael Fullan to redefine their roles so they were less focused on bureaucracy and more focused on learning. Between 2002 and 2008, technical changes to roles of superintendents and principals were made. Systems were refined in a pilot project involving twenty-three schools.

In this era, a provincial data system was built to make school data available to all principals, district leaders and the Ministry. Practitioners were challenged to shift towards evidence-based practices to inform their planning, professional development and teaching. The York District Board, having moved through first order change (putting structures in place) to enable the work, then moved to second order change (adaptive changes to enable the deeper work) in 2009. The second 'wave' or 'order' required a different type of collaboration to develop an open mind-set inquiry approach, in order to adopt new strategies and learning to build capacity focussed on closing the achievement gap.

Because the district was charting relatively unknown waters, it was described by district leaders as a "dynamic and vibrant time of learning and debate". It was at this point that the district became involved in 'networked learning', focussing on the actual

work underway in schools to support the learning and teaching process - starting with school principals and then involving teachers.

One district leader described the impact of the 'Second Wave' of change – *“During this time leaders and teachers were encouraged develop a mind-set focused on 'our schools' and 'our students' rather than 'my school' and 'my students'. It was a slow process of shared learning and 'going deeper'”*.

### Building capacity focused on learning

In the 'Second Wave' of change the district adopted Elmore's Instructional Rounds process which enabled teachers to have more voice in the learning, teaching and leading process. All the work in this era was focused on capacity building to lead learning, based on evidence. Strategies to achieve this included lead teachers working across schools, 'Student Success Leader facilitators' working in secondary schools to support targeted students and 'Schooling Improvement Teams' going into identified low performing schools.

Rotation of teachers and principals in and out of district and provincial leadership, consultancy and project roles has been built into the system over time, which has built coherence and strengthened alignment at each level of the system. This type of systems organisation was also found in Alberta. There, schools have worked in networks on school-designed innovations within and across districts for over 12 years. School leaders also have opportunity to be involved in network projects with other provinces across Canada and other countries, such as Finland, which has a national network of innovation.

### Networking within networks

Networks in England, by comparison, were very much more a mix of top-down, district-led and bottom-up, principal led organisations. Most collaborative work happens at the district level, but different groups of schools come together for different reasons, at different times. Unlike Canada and Singapore, there was more variation in how district leaders defined their roles, what they did and the type of education expertise they employed to support projects and initiatives.

Because of this, in some areas network collaborations were initiated by the District Board, while others were led by principals. Some were 'highly structured with medium freedom', while others adopted a more 'open space with some structure' approach. Many districts had partnership projects with universities and higher education institutions that were jointly funded by the organisations involved.

At the time of my visit, many regions across England were focused on devolving district responsibilities to individual schools. The process itself created variation in the type of network collaboration that schools and school leaders were involved in. Two networks I visited in Taunton and Dudley were examples of this. The Taunton District principals had come together because a pool of funding had been offered by the

district for collaborative leadership development. In the Dudley District, it was a group of principals who came together to explore the possibility of setting up a collaborative trust to work as a community of five schools, to offset changes being made at district level. With support from a district schooling improvement officer and an expert facilitator, this network had developed a range of initiatives to support student achievement over time.

In British Columbia, there were also a mix of district initiatives and other joint projects that individual schools could choose to be part of. For instance, principals in different districts had the choice to become involved in a provincial First Nations students project which was linked to a federal education priority. This initiative created networks of schools with a common focus, an agreed pedagogical approach, some resource and external support. It was invitational and structures set up were non-hierarchical. Using Hannan's criteria, they could be described as 'open space with medium structure' as they were networks that were developed by practitioners, in their local contexts, with some structures in place to capture the learning.

### The challenges of 'system-ness'

'System-ness' is about developing a long-term goal, and then building capacity and coherence at all levels of the system, over time. Most countries have some of this happening through district plans that link to regional and national plans. It is this planning that has provided a platform, structure or framework, from which network projects or school collaborations have evolved.

While 'system-ness' can create consistency, it can also stifle the innovation and improvement it looks to create. In the process of developing coherence at different layers, systems can become like a complex machine that cannot be changed, so is not adaptive or responsive. If 'system-ness' is about developing quality teaching and learning through joint collaboration, structures need to support joint learning to occur. Countries such as Finland, Singapore and Canada, with established systems of collaboration, are now prioritising time for joint collaboration that leads to 'incremental innovation', that can then be up-scaled.

While the goal in every education system is to improve student outcomes, the focus on high-stakes student achievement results is both the goal and a potential barrier for innovation. In Singapore, for instance, as results have become more high-stakes, teachers have been reluctant to experiment, take risks and explore new strategies. In Singapore and Finland, education leaders encourage all new ideas to be shared, so teachers then continue to develop new and different strategies to support student learning.

### Mobilisation of knowledge

Mobilisation of knowledge up and down the layers of the system is another aspect of 'system-ness' that is both an opportunity and a challenge. In British Columbia, lead

teachers who were part of a 'Quality Teachers Group', set up deep learning inquiries, with the support of a coach. They shared their frustration that there were no opportunities to share the work they were doing at district level, nor was there a vision to create a district network of teacher leaders.

Another initiative, where primary and secondary teachers were released to watch literacy lessons across sectors, resulted in networks of joint collaboration being developed across schools, none of which was acknowledged by principals or known about at district board level. Teachers, as they talked about the work they were involved in, identified a systems dilemma around how to connect the pockets of innovation happening across their district and then across seventy five districts in British Columbia.

In Ontario and Singapore mobilisation of knowledge is addressed in different ways. In Singapore, principals and district leaders spend time in classrooms, so develop first-hand knowledge of programmes, teacher capacity and student learning. In Ontario, there are a range of mechanisms in place for people to work at different levels of the system. Teachers with talents in a specialist area have opportunity to work at district level for two years and then return to their school, to take up new leadership roles. This creates coherence and alignment across the layers of a system which in turn creates incremental improvement.

Systematic share information at each level of the system is done by people working across different levels of the system. One of the goals of networking is to mobilise knowledge and scale up the most effective innovative practices found. Where there are more layers in the system, the challenge of mobilising knowledge increases.

### **Networking for sustainability**

In the New Zealand context, most of our network experience has been with short-term projects, schooling improvement projects or ministry professional development initiative that have lasted between one and three years. Schools have worked alongside each other and shared their respective stories in some instances, but ongoing joint collaboration, to create new and continuous learning has not often been achieved.

Learning from overseas, the systems that support student learning the most effectively—Singapore, Alberta, Ontario and British Columbia all have a long-term vision and strategic plan for their country or province respectively. The most effective networks of schools had a strategic plan, to systemically grow capacity of schools, leaders, teachers, students and their communities over time.

Within these countries or provinces some network groups were focused on developing leadership capacity; some were focused on developing teaching and learning capacity. Different network initiatives were looking to effect change at different

levels—provincial, district, school or classroom level, but they were all aligned with a long-term plan.

### Motivation and commitment

The most powerfully connected networks were networks that had the strongest personal and professional relationships. One was a network of six schools in Dudley, England; the two other networks involved teachers in British Columbia. These were networks where relational trust was very high and the moral purpose of the group was valued by all those in the group.

In each instance, the networks were self-selected rather than mandated and they were from the same region or province but not necessarily the same district. The networks also had autonomy and flexibility to develop plans suited to their context. Each group had strong leadership capacity and expertise within the groups, but in all instances leadership roles were distributed. Their work was aligned to district, regional, provincial or national priorities and had evolved out of earlier district initiatives.

These networks were able to access different types of expertise at different levels of the system. Principals in Dudley worked with an academic facilitator. Teacher groups in British Columbia made links with and utilised experts in their sectors. Through their work, people had developed collective capital, taking ownership of and responsibility for the network goals.

A challenge for school networks is for everyone to be involved, not just the principals, to move beyond focusing on the success of one's own school to a moral imperative to work for the success of every student in every school. This is not just an abstract commitment. Hargreaves (2011) suggests moral commitment comes about when teachers and students move, however briefly, between schools in partnership and is the result of teachers have direct contact with students from another school.

### Developing a culture of collaboration

In discussions with the teacher group in British Columbia, one of the teachers described the dilemma of focusing on a system of collaboration as opposed to a culture of collaboration. Her point was that all leaders at each level of the system needed to understand and value a culture of collaboration. She described district leaders at different levels as managers, not leaders, who were focused on tasks and not on learning, with, from and through others. This, in turn, undermined systems coherence and mobilisation of knowledge across schools at districts and at provincial level.

In New Zealand, we don't have district or regional and provincial layers of support to help with backbone functions like administration, communication, organisation or development of professional development modules. Nor do we have abundant capacity in a range of areas, linked to collaborative work. What we do have are school leaders, who together, could utilise their collective strengths to develop collaborative initiatives, using a range of different network structures that serve the needs of students, teachers and communities.

At present, in New Zealand the focus is on developing a system of collaboration. To develop a long-term vision to support schools, leaders, teachers, students, parents and communities, to develop a national 'culture of collaboration', could be a grass-roots, ground up strategy, that is complemented by a system that provides flexible structures that support it to evolve. A culture of collaboration is about people developing a growth mind-set about possible ways to make learning work for every student, in every school, better.

## The purpose of networking

### Moral purpose and a plan

Network leaders in England, the Netherlands, British Columbia, Alberta and Ontario, were all highly motivated to share stories about effective collaboration. In every instance there was a strong moral imperative underpinning their work—they wanted students to achieve success in learning. These were effective networks that had leaders with capacity, strong commitment, a clear vision, a common purpose and a plan.

University academics, district leaders, school leaders and lead teachers I met were all used to schools being part of district work streams, as well as other cluster or network work streams that they chose to be part of. Districts, like Hackney, that had a powerful, long-term plan, worked to ensure the professional development was building capacity at each level of their district, each year. If people were involved in projects, they were aligned to the district goals. In other areas visited, schools came together in networks for different reasons; to work on leadership development, to learn more about blended learning, or to work in partnership with a university on a regional or national priority area.

Most networks, because they were funded by the district, by a research grant, or received funding for completed inquiry projects, had external accountability measures. While these measures were used to assess progress against stated outcomes, what was measured were the minimal requirements expected. The networks that achieved the most and had the most compelling stories of success were intrinsically motivated, had gone far beyond the initial brief and in doing so achieved far more as a network than expected.

## Moral purpose and sustainability

Reflecting on the types of networks visited in terms of sustainability, different networks had been set up and maintained for different lengths of time, depending on their purpose. Examples of networks that had sustained over time, other than those that were part of the system such as district networks, were hard to find.

Three examples I did find were teacher-led, informal networks where professional relationships had been established through initial work done on district early childhood, literacy and inquiry initiatives. Once the initiative had finished the teachers had chosen to continue meeting. These networks were not reliant on resource. They had not waited to be organised by others. They were driven by teaching professionals who were intrinsically motivated. They were networks where teachers valued time spent together, the joint learning process and what they gained from the collaborative process.

A key feature of these networks was the absence of external accountability measures. There were however, measures of success in terms of influence and mobilisation of knowledge. The early childhood group had, through their work, gained representation at local board level. The other teacher groups shared their work, within schools, across schools, at conferences and in academic journals.

## Moral purpose and leadership

In the literature there is strong agreement leadership is key to change at school level, network level and across a system. In this study, the most powerful leadership story was found in the Dudley Network. A network of five principals, had come together to discuss forming a trust because the local district office was being restructured and down-sized. The principals, through the district, got to work with an external facilitator from Worcester University. Over several months they established a collective vision, core values and a shared common purpose for their network. During this time the principals developed stronger relationships as they began to use each other as sounding boards on a range of different and more personal issues.

At one of their collaborative meetings one of the new principals shared that they were really concerned that their school would fail an Ofsted visit and they would lose their job. The group formulated a plan to do their own internal review of the school, to provide feedback on what they thought needed to happen. This was done over the next six months, all the principals shared expert teachers and resources from their own schools to build the school's capacity in key areas. Ofsted eventually came and the school gained a "good" rating.

Principals relating the story talked about how responsible they felt for this school and how elated they were when they had such a positive Ofsted review. One principal shared *"You know you are committed to a network when you lie awake at night not worrying about your school, but what is happening in someone else's school"*.

In my experience it is a rare thing to have principals working as hard to ensure the success of another school, as well as their own. This network has gone on to organise their team to review all their schools and to plan ways they could utilise their collective resources to further improve all their schools.

The moral purpose of collaborative networking is to work together so more children achieve success in learning. The Dudley Network story made me wonder what would happen if all our school leaders committed to working with and for each other's schools, so all our students have the best possible education, as the principals in Dudley had done.

### Alignment of network and school priorities

Within the literature on effective networks, there is a lot of agreement about the role of the formal leaders in a network being critical to the success of the network. What I learned, was network collaboration is effective when principals understand how networking works and then prioritising it as a way to “make more difference, for more students”.

Effective network leaders make links between network, school, team, class and individual priorities and ensure issues of time, space and resourcing are attended to so joint learning opportunities are created. As a group different roles are developed and rotated, so the load is shared. Effective leaders commit their time, energy and expertise to the collective work and support people within schools, across schools and beyond, to become involved in collaborative work.

### Layers of networking

In my travels I had the privilege of meeting many passionate, talented, capable network and ‘networked’ leaders. Different leaders worked at different levels of the system they were in, but they were all part of networks, local, regional, national and /or international. District leaders would work with other district leaders. Principals in the district of Dudley collaborated with a principal cluster in Taunton.

It was the same in Canada and England. Provincial leaders would work with other provincial leaders. Principals in the province of Alberta were involved in joint projects with principals in Finland. District leaders in Ontario visited the Hackney District annually to engage in joint collaborative work. Principals and lead teachers across British Columbia worked together with university personnel on initiatives, which in turn linked them to international networks of researchers and practitioners.

The longer that networks had been established the stronger the network links were at local, regional and international levels. In established systems, it was not just the leaders who were networked; it was also specialist teachers, lead teachers and community leaders who were networked within and across schools. In places like Ontario and Singapore, this occurred because of the ‘system-ness’ or systems structures that had been designed to achieve coherence at each level.

## Different networks; different structures

Within networks, there were different leadership structures. Some used a distributed leadership model, with one principal or a district leader taking on a coordination role, which was sometimes rotated. In other instances, an external provider was the facilitator for the group. In most network meetings, it was the principal, senior leaders and lead teachers who attended network activities across schools or at district level. One exception to this was in the Netherlands.

In the Netherlands, it was the specialist teachers in the district of Zaandam, working with an external facilitator, that were leading the development of capacity in their respective areas of expertise. In this district, principals' roles were not focused on learning, so an external facilitator with expertise in developing networks had been employed by the Zaandam District to bring together subject specialists and to set up joint collaborative projects. The facilitator, with an ICT specialist, had developed a software package, for teachers to be able to capture their inquiry projects online. Collaboration at the teacher level was strong, but because principals were not involved, potential for using the network inquiries led by subject specialists across schools was not assured.

In British Columbia, there were examples of teachers leading networks. Through a grant from the Teachers Union, 25 early childhood teachers, established a network that met every two months, to improve the consistency and quality of teaching and learning across their district. As well as sharing practice, a mentor system was developed to support struggling teachers. Formal roles included a chairperson, a secretary, and committee members and roles were rotated to share the workload. Over time, the network has influenced district professional development decision-making and assessment systems, by trialling alternative assessment strategies.

In the most effective networks, people were connected at different levels in the system; at Board of Trustees or governor level, at principal level, senior leader level and teacher level. In some instances students may connect across schools, but in most instances students' connection to network goals was through teacher inquiries or network projects. Each network visited had some levels of their network (leaders, teachers, students, parents) connected more than others.

## Expert principals; expert teachers

Through the OECD, the notion of expert principals working alongside other principals has been a practice used in different countries to strengthen leadership capacity. Initially in Finland, it came about through expert principals working with neighbouring principals to improve their neighbour's practice and the capacity of their school. In Finland, where equity in education is a key driver for improvement, the mentor role was about making learning work for all students, rather than being a career advancement opportunity.

In the Netherlands, four out of five schools are part of a federation consisting of two or more schools, with the average size of federation comprising 11 schools. Within federations, principals may lead a single school, or multiple schools. Where a principal oversees more than one school, a specific teacher takes on the role of location leader to be the point of contact for parents and staff on a day-to-day basis. A federation may also employ an educational professional as a superintendent to oversee strategy and operational management within the federation. In total, 20 percent of a school's capital funding and a small proportion of its staffing budget are devolved to the federation. The federation takes overall responsibility for school improvement and professional development (Hill, 2010).

In England the coalition government's white paper *The importance of teaching* (HM Government, 2010) saw inter-school partnerships become established in many different forms across thousands of schools in England. This was in response to the coalition government's policy of transferring the main responsibility for teacher development and school improvement away from local authorities and other providers and directly to schools themselves. These inter-school partnerships are seen to be the building blocks of a self-improving system.

Expert principals and expert teachers were also used in the Hackney District in the early 2000s. This came about as a result of the district being identified as the lowest performing district in the greater London area. The district, with external support, developed a long-term vision for their district, in consultation with their communities. A trust was established to provide additional income needed to support the schools. At the time, one of the key issues identified was lack of principal capacity, so successful principals were set up to mentor and coach other principals to improve student achievement in their respective schools. Some principals worked in two schools; others worked across three to five schools. The district was committed to growing capacity locally, so a strong leadership development programme was established.

The 'expert principal' role has developed in different ways in England. Some 'expert principals' work as mentors, similar to the roles established in Finland. While visiting the district of Taunton, the local Board had approached one of the Taunton principals to work with another school for a term as an 'expert principal'. In this instance, it was a fixed-term role, rather than a permanent position, with a mentoring focus.

As part of the London Challenge initiative in the early 2000s, expert principal roles were created to lead coaching triads, involving three schools, or to work in school-to-school support initiatives in the London area. Other expert principal roles that have evolved in London were principals with expertise in leadership development. These head teachers' schools were relabelled 'National Teaching Schools' that were designed to provide a range of on-site leadership training initiatives for middle management leaders and teacher trainees. The rise of chains of schools, federations and collaborating academies has also seen Chief Executive Officer roles become established.

## Drivers for change

The key driver in the English context is Ofsted. Listening to principals, leaders and academics, improvement was about getting better evaluations with Ofsted and the key driver of all initiatives seemed to be external accountability and public accountability. Because of the range of public school district networks, private charter groups of schools and academy chains, there is huge diversity in the types of networks operating in England. This diversity has led to a wide range of difference in structures of schools and districts, roles, resourcing and in outcomes. Some regions are decentralising resources from the district to the school. Some schools have become part of charter school or academy chains. Considering Fullan's list of drivers for collaboration, fragmentation also seemed to be a feature of systems level organisation.

By comparison, in Singapore and in different provinces in Canada, there has been a focus on developing coherence at all levels of the education system. At a network level, district and school leaders have focused on understanding what is happening at classroom level, capturing innovation in practice and then using this knowledge to develop capacity across schools. Internal accountability has been built into the work, using evidence-based decision-making and inquiry practices. In these countries, the negative impact of external accountability is acknowledged as a barrier to risk-taking and innovative practices. System-ness is a feature of the system in Singapore and Canada, underpinned by strong pedagogical and evidence-based decision making.

## Principals leading principals – the motive is key

Fullan has suggested that principals need to be the 'levers of change' in an education system. In his view, a network needs a lead principal to lead change and to be accountable for improvement across a network. The lead principal's role in this context is about 'using the group to shape the group', in doing so improving leadership practices that result in improvement in student learning.

With the right motive and the right leader, this is one way to achieve this goal, but depending on the type of network developed, the vision, the goals, the leaders and people involved, different, distributed leadership models are also effective in developing internal accountability and mutual responsibility. One example of a flat, distributed model of network leadership was the Dudley Network of principals. The commitment to each other and to the students in all their schools was their 'lever for change' and there was no one lead principal.

Over the last few years, in Ontario, British Columbia and Alberta, there has been a focus on redefining district roles that acted as external accountability 'levers of change'. In these provinces, principals', superintendents' and district leaders' roles have been redefined to focus less on accountability and more on how to support learning. Leaders at all levels of the system have been asked to support principals and teachers to engage in deep inquiries into teaching and learning that lead to

incremental innovation, which leads to improvement. Evidence of learning is still used as a measure of progress, but they are also used to inform next steps in the learning cycle for all participants.

In all the networks visited in different education systems, no one principal was seen to be, or tried to be, a 'lever of change' on their own. In some instances, individual principals had a specific role to mentor or coach another principal for a time, but for the most part, principals worked with other principal colleagues, often with external support from different levels of the system, to develop skills and knowledge needed to inform their work. Learning with, from, and through each other, the goal was more about building distributed leadership capacity across their respective networks and support student success in learning.

### Professional development at systems levels

In Ontario, between 2001 and 2009, the district developed a 'Leadership Competencies Framework' for school leaders and managers across the system. In the 'first wave', leadership professional learning was done in large gatherings away from the school. Principals and district leaders described these 'ballroom' sessions as very effective at the outset, but the impact of this learning did not reach into the classroom in a consistent manner. 'Professional Learning Groups' were introduced to address this.

Today at each level of the system in Ontario, programmes and modules of professional learning have been developed at different levels of the system. A principal aspiring to be a superintendent needs to complete five modules over a minimum of 18 months to then go into a pool of people 'available' for selection at the next level. Teachers and leaders in Ontario are encouraged to apply for leadership programmes. In Ontario and British Columbia, teachers can also apply for funding to complete innovative inquiry projects, as part of their career pathway development.

Singapore also has strong systems for identifying potential leaders early in their careers and they are certified over a long period of time. Like Ontario, there are systemic professional development modules leaders complete, at each level of the system. In Finland principals are selected from teachers within their own schools, where they have established credibility as a teacher in a school of highly qualified teachers. 'Principals support principals' across schools and across districts, but there is less emphasis on remuneration or career pathways and more emphasis on creating equity across the system.

In some systems, opportunities for professional development are ongoing, systemic and linked to career pathways. In Alberta and Ontario, people move up and down of different layers of the system, which develops understanding and coherence of the whole system. In England, individual leaders have opportunity to take on new responsibilities and challenges, through opportunities created by district personnel, superintendents, regional projects and university networks.

In all countries, leaders have a critical role in aligning the work being done in their school to district, regional and national priorities, but also supporting teachers to use new knowledge in classrooms.

### Network leadership skills

Leadership roles in networks vary, depending on the structure of the system, the purpose of the network, who is involved and what skills and capacity exist within the group.

Working in a network requires different and additional leadership skills from those needed to run a school. Skills that leaders had developed in networks visited included a) the ability to create and lead a network vision, b) to facilitate the group to find a shared common purpose, c) strategic planning, d) to model and support school leaders to align network and school goals, e) vertical and lateral communication, f) skills in project development, g) skills in facilitating joint collaboration, h) knowledge mobilisation at different levels of the system, and i) co-ordinating network assessment and evaluation.

Principals leading networks also need to develop knowledge about the stages of change management and how clusters move from exploring new ideas, to developing strategies to implement, to deepening understanding of the change management process. Sustainability of practices that result in ongoing improvement, takes time to achieve, but it is the goal.

In some education systems these leadership skills are built into professional development at every layer of the system. In other systems, leaders develop the skills as they engage in different types of network activities. In New Zealand, most school leaders have experience of being part of short-term, collaborative projects or professional development initiatives. To develop long-term, sustainable networks of schools, that work together to improve student, teacher, leadership, school and network capacity is a very different challenge from what has gone before.

Development of capacity for principals to lead this change has not been a part of our education system to this point. At this time we have just two national professional development programmes: the 'Aspiring Principals' programme and the 'First Time Principals' programme. To further develop professional development opportunities for leaders at different levels of the system is both a challenge and an opportunity before us.

### Network resourcing

As a member of an eight year old, grass-roots, non-mandated New Zealand network that is yet to fit ministry criteria for network funding, to find out more about how different network initiatives and projects were funded, was a key focus of this study. Networks need backbone resourcing and in my travels every network had time, space and resource issues to resolve.

## Time

Creating time for collaboration within schools and across schools is about creating opportunities for innovation and improvement. Time to network, time to collaborate, time to create joint dialogue, to generate new learning, to then implement the new learning and assess how well it is working, is the process of joint collaboration. To create the space to do this consistently well is a challenge all educators I met were aware of.

At a systems level, different countries, districts and projects have created a range of ways in which to address the issue of time. Most districts had regular meetings once or twice a term that principals attended. One of the districts visited gave all schools eight professional learning days a year. Four of these were on the same day, so once a term all school leaders and lead teachers met and work together on district priorities. The other four days were flexi days and could be taken at any time. This meant leaders and teachers could organise visits to other schools to observe peers and engage in collaborative network activities. Some school groups split up so leaders and teachers could follow up on specific areas of interest or expertise. Some groups organised to go further afield and visit other districts, states or countries.

In The Netherlands, all schools in the Zaandam district finish school at two o' clock every Wednesday. This is the day in-school and district professional development is done. It is a similar system to that in Tahiti, where all students go home at lunchtime on a Wednesday, creating time for teacher planning. In both these systems the primary school day is slightly longer to make up this time.

Singapore gives 10 percent “white space” time to all of its teachers to come up with their own innovations outside of the official curriculum. This encourages teachers to work with their colleagues for inspiration and ideas.

In most instances, network projects involving teachers collaborating across schools had funding allocated from the district, region or at national level to ensure adequate teacher release was provided. In Alberta and British Columbia, incentives were provided by the province for teachers who completed innovative inquiry projects that were then became part of a resource pool for others to use. In countries visited, principals in schools could also create release time for network priorities. In some countries, such as Canada, union regulations limit after hours meetings, so release time in school was factored into project work.

## Space

In all countries visited, as well as having regional and national offices, each district had buildings that were used for a range of district meetings for educators at all levels of the system— district boards, superintendents, principals, middle management teachers, specialist teachers and provisionally registered teachers. Some network meetings I attended were in ‘ballroom’ type spaces, to accommodate the numbers of

people attending. Other meetings were held in schools, district offices or university spaces.

Having visited over 10 district buildings in five countries, they could all accommodate network activities that involved up to 100 people. Each facility had rooms of different sizes and ICT equipment in conference rooms. Some had additional resources such as a print room, kitchen and eating facilities for different size groups, libraries and ICT hub areas. Some district buildings had open plan office arrangements. Others had the more traditional office spaces for district personnel. Some network meetings were also held in schools, the dilemma being that, depending on the size of the group, spaces a network group used in a school disrupted class or school programmes.

The backbone organisation of a network involves coordination of network activities, communication, finances, data and liaising with people involved within and beyond the network. People doing this work need a space to work, ICT equipment, a phone and administration resources. Overseas, district offices were often used to accommodate network coordinators and project facilitators. In some instances, backbone organisation work was done at universities.

## Resources

Depending on the network, its purpose, its capacity and its stage of development, different types of expertise was sought and used at different times. Human resource organisation was different in every network visited. The Dudley Network in England had district specialist personnel who co-ordinated the network. In Taunton, it was a lead principal who, as fund holder of money for a leadership initiative coordinated the group. In Alberta and British Columbia, provincial initiatives had a team, led by district leaders and a provincial coordinator. In the Netherlands, the Zaandam district had hired a network facilitator for a specific project. In British Columbia, the First Nations network projects had a research team, funded by the Federal Government, supplying the backbone resource.

The non-mandated, teacher-driven networks were maintained through grants they could apply for through their union and from different trusts. Other teacher groups were given funding for allowing their inquiry work to be used at a provincial level. In some instances teachers were sponsored by academics to share their work at conferences.

As well as backbone structure support, networks also hired specialist support. Two districts I visited in The Netherlands and in British Columbia had employed specialist ICT people to set-up online portfolios, like OneNote or MyPortfolio, for teachers to use at different stages of network inquiries. Creating online forums, spaces for resources, access to different resources and documents being used by the network were just some of the ways in which people were using technology to further support the network goals. Outside speakers, facilitators and specialist data analysts are other examples of specialists used by network groups visited.

At each stage of network development, different types of resource were used. As networks developed work streams, resources to monitor progress and to gather and collate data and generate reports were required. Mobilising new learning at different levels of the system, presenting to different stake-holder groups and linking in to national and international networks was also factored into some network budgets.

### Flexibility in resourcing

How the backbone organisation of networks is developed requires thought about time, spaces and resources. There are many ways to organise these; issues of time, space and resourcing need to be addressed at both systems level and local level.

Flexibility in resourcing for different types of networks, with different capacity levels, in different contexts, at different stages of development is critical. Some network tasks will be able to be completed by members of the network as capacity allows. Other expertise may need to be outsourced until network capacity is sufficiently developed.

### Evaluation of network effectiveness

There are many ways to evaluate the effectiveness of networks. The most obvious of these is student progress, achievement and success in learning. But, effective networks have many layers of learners, so different self-review tools and internal accountability measures need to be used to account for improvement over time.

In all the countries visited, PISA rankings were linked to network practices through provincial, regional and district data. Linked to improvement in PISA rankings were examples of different network initiatives focused on equity for First Nations students (British Columbia), innovation (Alberta and Singapore), coherence across a system (Ontario) and building leadership and teacher capacity (The Netherlands, England). In every country, educators were looking to improve their practice using new approaches.

Evidence of success as a network came from a range of sources at local level. In England, Ofsted reports were high-stakes evidence of success. In other networks, evidence of improvement had been documented by participants who shared evidence of practice across schools. Some networks had researchers capture their stories to share in a range of education forums at local, regional, national and international levels. Some networks had champions in the form of international researchers like Andy Hargreaves, Michael Fullan, Pasi Sahlberg, Judy Halbert and Linda Kaser.

All districts visited had data sets that measured improvement in different areas over time. In systems like Ontario, this information informed strategic planning and professional development decisions at multiple levels. In Alberta, reports from different districts on innovation projects were a different type of evidence, the best of which were then shared at provincial level. In the Netherlands teachers' inquiry projects were presented at district level and uploaded as a resource for teachers across schools in the local district to access. Sources of evidence used to inform network impact

included student data, video clips, school and teacher inquiry projects, interviews, presentations in a range of forums, surveys of different stakeholder groups, focus groups, Ofsted reviews, district data, national data and research summaries.

In British Columbia, social network evaluation tools were used to assess the impact of the First Nations project. As well as qualitative data from interviews, researchers also used a newly developed 'culturally inclusive impact assessment rubric'. This included identifying key criteria, integral to the project to decide if school projects: a) showed potential through which to consider change, b) Change that was shifting context and practice, c) Change that had shifted context, process or practice, and d) Change that had transformed the context, process or practice. It was the most innovative of network assessment tools found and was an excellent example of a network tool that had been developed as an initiative evolved, to capture the rich, but complex, innovations, in conjunction with other sources of evidence.

## Summary

From the networks visited, the assessment and evaluation functions were important for different reasons at different stages of development. In the beginning stages of a network, baseline information is needed to inform initial decision making. It is also important to align school and network assessment tools and timetables, as well as identify who is to manage the network data. Once a network is established, network data provides evidence of progress being made and informs next steps. In mature networks, new tools are needed to measure different aspects of network impact.

How to mobilise the information horizontally and vertically across the network, to other layers of the system, was identified as a dilemma in countries and provinces that had looser network arrangements. Without champions at different levels of a system, or people moving between levels, successful network stories were being lost.

In the next section, how the findings from this study might be used to inform the current dialogue about networking in the current New Zealand context is discussed. Three rubrics to generate discussion and guide networks at different stages of development have been created, based upon this study.

# The net is woven: Reflections and implications for principals

## Principles of effective networking

### A system of collaboration

Through this study, what has become clear is that developing a 'system of collaboration' is not the same as developing a 'culture of collaboration'. Systems change, at any level, is about structure, roles, resourcing and accountability. Systems changes can enhance and support collaborative work, but on their own, they are not enough.

The 'right drivers' for systems change matter. Effective collaboration at a systems level, needs to be learning-centred, focused on the teaching-learning-assessment cycle of inquiry, building the professional capital of teachers and using technology to enhance pedagogy (Fullan, 2011).

The 'right drivers' at a network level will, in theory, mirror what is happening in schools where learning at every level is a focus and joint collaboration is part of "how we do it here". A shared understanding of what effective networking is at all levels of our education system is needed, so structures, roles and resourcing can be aligned to support networks as they develop. Changing from a system of individual schools to a system of networks requires new skill sets at each level of the system. To do this, a co-constructed plan is needed to develop capacity at every level of the system.

Overseas there were many different types of networks. At district level, schools were grouped geographically and vertically, but within the districts many different types of networks operated. Some were geographical; many were not. District networks were vertically structured, but many types of network projects happening within the districts were not. Some were large, with over 30 schools. Most networks had between three and fifteen schools. The most effective networks were the self-selected networks where leaders, lead teachers and teachers had developed a clear vision for what they wanted to achieve and had evidence that they were making a difference. Their success had cemented strong relationships and had grown their commitment to their network, over time.

Flexibility in roles and autonomy over funding were features of the networks that had sustained over time. Effective networks, as they develop and evolve, had sourced expertise or specialist skills that support them in their vision, shared goals and implementation plans. No two networks will ever be the same so flexibility in resourcing, to access expertise that will be the most beneficial in each network context, is critical. For example, if there are 10 competent leaders, but no one with skills in analysing cluster data, the network needs to engage a data analyst, rather than spend resource on a lead principal. If a group of schools has strengths in literacy, but lacks special needs capacity, they need to access expertise in this area.

At a structural level, ways to create time for joint collaboration, so it is not something else “added on” to already long teacher days, is needed to support the development of joint collaboration. This could involve schools being given teacher only days each term specifically for collaborative work. Schools could finish early one day a week to create the time for teachers across schools to meet. Teachers involved in network projects could be paid for the additional time involved in network collaboration, facilitation and presenting in different forums. This type of structural change could also be used to systemically mobilise knowledge at different levels of the system.

### A culture of collaboration

A ‘culture of collaboration’ is a way of thinking about how we learn. A culture of collaboration begins in the classroom with the ways in which teachers, students and parents interact, with each other and with others beyond the classroom, supported by technology. Collaboration in learning within classrooms and across classrooms is about de-privatising practice, sharing failures and successes and having time to create new learning, in iterative and ongoing cycles of inquiry.

Developing a culture of collaboration across schools and at different layers of our education system requires new mind-sets and an understanding of how capacity is built, at each level of our schools. Michael Fullan describes this as building ‘professional capital’. To build a culture of collaboration at classroom level, school level and network level leaders and teachers need to value the process of collaborating and to see themselves as valued, co-inquirers in learning, at micro and macro levels. In a culture of collaboration there is a mind-shift from ‘I’ to ‘Us’ and from ‘Me’ to ‘We’, that can be observed in actions, behaviours and the ‘language of learning’.

While the structures developed in a system of collaboration and resourcing to do the work are important, it is the culture of collaboration that underpins innovation and improvement. It cannot be mandated because it is based on moral purpose, shared beliefs, personal and cultural values.

### The moral purpose

The moral purpose of network leaders is critical to achieving success for students. Effective collaboration in education is about leaders being committed to working for all students in all schools, as they do their own. It is about the collective good coming before what might benefit an individual school, or an individual school leader. Effective collaboration starts with the leaders, but the goal is to develop the capacity of teachers, of students, of individual schools and ‘communities of schools’, so all students can achieve success.

Leaders with a moral purpose will lead a network that develops and grows beyond the scope of the funding, because the work is taken up by people at all levels, within and beyond the school. Building a collective understanding of schools takes time, as does

developing layers of relationships. Leaders who value collaboration through networking make time for it. They align their school annual plans, so network activities are part of the plan. Leaders turn up to meetings, turn off their iPhones, do what they say they will do and model what they are asking others to do. They prioritise their time and resources so the collaborative culture in their own schools is extended another layer, beyond the school.

### Context matters

Understanding school context is an important part of establishing and maintaining a network. It is only as information about individual schools is shared, that common goals and shared values can be developed. Information needed to inform a developing network plan includes schools' current realities, their challenges, strengths and goals.

Commitment to the network grows as trust is developed by network leaders, through the process of de-privatising school information, establishing a shared vision and identifying common goals. Identifying leaders across schools to support different strands of work, as well as what expertise the network has and what expertise it may need, is also a part of this process. As networks develop, roles and goals evolve and change, but at every stage, how they align with school contexts, individually and collectively, needs to be considered.

At an individual network level, leaders need to make choices about the type of structures they put in place to support the goals they want to achieve. Within systems there is a need to create spaces for innovation, creativity, risk taking, to be learners that fail as well as succeed. Structures of networks need to develop so there is a safe and accepting environment in which to participate in joint work. Protocols developed in an Aboriginal Enhancement Schools Network inquiry (McGregor et al., 2014) were described as being like a "flexible container"—that is, structured and flexible, that included sharing learning stories with data embedded. These protocols were described as both a form of accountability structured into the network and levers to advance thinking and to mobilize knowledge across networks.

If the culture of collaboration is about developing new learning and sharing this within and across schools, protocols to support this need to be developed.

### Relationships matter

New Zealand school leaders work in a system based on competition and self-management. If the goal is to develop a culture of collaboration, that extends horizontally and vertically within schools, across schools and at different levels of our system, it is dependent on the quality of relationships of the leaders in our system.

Effective networks are those where relationships are strong, values are aligned and leaders trust each other to make decisions that work for all. In effective networks, mutual responsibility is grown as leaders commit to the collective vision and common

goals. In time effective networks become more so, as relationships develop at all levels of the network and joint collaboration becomes the norm.

Overseas and in New Zealand mandated networks do exist. In the *Best Evidence Professional Development Synthesis* (2007), Timperly argues that teachers do not need to buy into professional development to benefit from it. It is the same with networks. Schools can be mandated to network, minimal compliance will be observed and there will be some benefits for schools. But, what cannot be mandated is powerful joint collaboration that creates incremental innovation that helps students excel. That comes from a culture of collaboration, developed over time, with professionals that have strong relationships, deep trust and a commitment to creating success for all students.

### Network leadership matters

Network leadership requires principals to develop new mind-sets, to support the development of a culture of collaboration. Effective networking is not about 'I'; it is about 'we'. It is a shift from "me" to "us", from "theirs to ours" and to "all of us making a difference for all of our students in all of our schools". Some aspects of networking will require schools to learn from others, some will require schools to lead the learning for others. Some aspects of the learning will see everyone doing new work together.

In each phase of network development principals have a critical role in creating a) a shared vision, b) alignment between network priorities and individual school priorities, c) a strategic plan that is flexible, but that provides structure enough for the network to develop, and d) an annual plan of work that attends to school and network priorities so it works.

It is the principals' commitment to the principals of collaboration that will create the '++ gains', that is learning at individual school level and learning at network level that is stronger, deeper and more effective than what can be achieved as an individual school. Principals need to be creative in the development of network activities, in fostering joint collaborative learning opportunities at different levels of the network and in use of strategic resourcing.

So, what support is going to be needed to ensure all leaders develop the knowledge, skills and capacity to take up and sustain network leadership roles? A 'leadership development plan' to grow network leadership capacity at local, regional and national levels, is needed. Network leaders will have choices about how they interpret their roles. They could be levers of change, providing support for colleagues as co-inquirers or another layer of 'helicopter hoverers' that apply more pressure to perform.

Network leadership also offers new and different types of leadership challenge. It offers opportunity to develop new roles within and across schools, such as cluster data specialists, project leaders, facilitators, coaches, mentors, pedagogy experts,

subject specialists, researchers and the like, that have traditionally been part of external provider support packages.

Who is to create the professional development resource needed to grow this leadership capacity is the first challenge. How to create equitable access to this type of professional development, so all networks are supported to achieve success, is the second.

### Teachers matter

While the leadership role in networking is critical to a network's development, it is the classroom level within and across schools that are the most important level of the network. Joint collaboration is about what happens when teachers and students create exciting new learning that is shared with colleagues, who then together create a 'next innovation', better than what has gone before. Effective teachers engage in this process at classroom level every day.

In a culture of collaboration this would happen within schools and across schools and at different levels. The process of joint collaboration that systemically develops more opportunities to learning with, from and through others, is key to ongoing incremental innovation. Creating time to collaborate, that is not an "add on", is where network systems need to support joint collaboration.

Research shows that where teachers are involved in the design of network activities, shared ownership is developed. Hargreaves and Shirley (2015) state:

To become more successful innovators, we need to establish platforms for teachers to initiate their own changes and make their own judgments on the frontline, to invest more in the change capacities of local districts and communities. (p. 1)

Sweeney (2011) also supports teacher involvement in the design of network activities. Sweeney states that when the focus of a network activity is on conforming, teachers and students learn knowledge. When focused on reforming, teachers and students are learning in improvement cycles as they review, reflect and change. When focused on transforming, equity is at the centre of learning and all students are supported to achieve success in learning and through cycles of inquiry, so learners at any level can develop agency and are empowered to take ownership of their learning.

Examples of teacher-led collaboration were found in Alberta, Ontario and Finland. Alberta funds almost all its schools and districts to design and evaluate their own innovations and teachers are the drivers of change, rather than leaders. One condition of funding is that schools must have explicit plans to share what they are learning with others.

In Ontario, teachers come together to look at charts of how well all students are progressing in every class. Teachers look at the faces behind the numbers and

develop a strategy for each child. Across all grades, the goal is for all teachers to take collective responsibility for all students' success. In Finland, within very broad government guidelines, teachers create their own curriculum together across schools in every community and district. Collaboration extends beyond their own individual schools or implementing other people's ideas.

Opportunities to mobilise teachers' knowledge within schools, across schools and across networks, to support learner agency at all levels, has been developed in these systems.

## Resourcing

To resource a network requires creative strategic resource rethinking. In countries overseas, resourcing for schools to network have come from national, regional, district and local levels. Outside of education infrastructures, there are examples of networks set up by trusts, supported by business partners, education partners or being self-funded by participants.

In the New Zealand context, what resourcing will be available to support network development is not clearly defined at this time. Backbone resourcing is needed for administration, communication, funding, resources, research, evaluation, reporting and mobilisation of knowledge through network days, forums, regional and national events.

Leadership roles in networks were defined differently in different contexts and many examples of roles evolved and changed over time, to better meet the changing needs of the network. Because networks change and evolve, flexibility is needed to create leadership roles that will best support the development of individual networks.

Overseas the executive principal role has been used in different systems to help build leadership capacity of school leaders. In England, examples of this type of role were found mainly in academic chains of schools run by businessmen, or in areas such as Hackney, where the school district had developed a specific plan to build leadership capacity from within the district. In other districts, such as Taunton, the 'Expert Principal' was used as a short-term strategy to provide coaching or mentoring support. If effective networks are connected networks, flexible ways to distribute leadership vertically and horizontally are needed to help create and sustain shared ownership of network goals.

Beyond formal leadership roles, examples of other roles that can support network activities include facilitators, strategic analysts, data analysts, field research assistants to gather and collate information, pedagogy experts, coaches, mentors, researchers, 'expert teachers' in curriculum areas, ICT experts and project managers. At different stages of network development different roles are needed. Flexibility to create roles to meet the needs of the network, as it evolves and changes, creates opportunities for teachers and develops capacity at different levels of the education system.

Time resource is one of the greatest challenges for any network. How to create time for leaders and teachers to engage in joint collaboration within schools, then across schools, that creates incremental innovation, is the goal. What systems changes can be made to create time to create joint knowledge within schools and across schools is one challenge. How to ensure the knowledge is then mobilised across different levels of the system is another. Flexible time resource, within schools and across schools, is the most effective way to support the development of a culture of collaboration. Without time being built into the working day, networking becomes another 'add-on' that is just too hard to sustain.

As schools are working on using technology to support student learning, networks around the world are also experimenting with different online strategies to collate, collate, analyse and share knowledge. If networks are to be evidence-based, the management of data at network level is a key function. Beyond this, the creation of formal and informal forums for students, teachers, leaders, parents and the community to use, to support joint learning, is another aspect of networking that requires resourcing.

Resources to support networks need to be flexible. They need to be used to develop capacity at different levels of the network. Decision-making needs to be made by the participants in the network. In this way, the right support for each network context can be found and the decision-making process will begin to create internal accountability for decisions made.

## Evaluation

Effective network evaluation is linked to collective moral purpose and leaders' willingness to commit to the success of every student in every school in the network. Evaluation across schools is also linked to trust; trust to de-privatise data, not to judge or be judged but to support improvement. Reciprocity is built into this process because as leaders and teachers challenge others based on information provided, they in turn can expect to be challenged by others. This process, linked to moral purpose is powerful. This process, linked to power, will undermine the 'social and human capital' that builds 'collective professional capital' and de-motivate participants in the network. Motive matters.

Different types of information is needed at different stages of network development. Some information is already collected within schools, such as student progress and achievement. Other information is not. Some data sets, such as pedagogical capacity of teachers, needs specific tools to be created to capture baseline data or to measure improvement. Network goals need to inform what is to be measured at different levels of the network. How it is to be measured, collected, collated, analysed and used to inform participants at each level of the network also needs to be established by network leaders, as part of ongoing cycles of inquiry.

If networks are to evolve and sustain over time, the management of data needs to be factored into network organisation. Creation of longitudinal data needs to be planned for. 'Assessment literacy' at network levels will need to be developed and tools designed and created to measure different aspects of collaborative work that will inform participants.

Network evaluation is an area of research that is under-developed and around the world there is no one description of what an effective network is. Networks are complex organisations and evaluation across schools is a new dimension of New Zealand education yet to be developed. Networking has begun to create different types of joint inquiry into what works and different types of partnerships between practitioners and researchers. This is because contextual and cultural dimensions of practitioners' work can be integral parts of the learning that need to be retained through the research process. All information has the potential to inform effective decision-making and over time, new and different tools to assess effectiveness of networks will be needed, to better understand how to make learning work for all.

The next section is a summary of recommendations about how information in this report could be used to inform the development of policy around the creation of networks in the New Zealand context.

# Harvesting the pearls – Recommendations

## Implications for policy

Developing network collaboration in the New Zealand education system has implications for all levels of the system.

### (a) A shared vision

- To create effective networks across an education system requires a clear, long-term vision for what we, in New Zealand, want to achieve for each and every student in our state education system and how networks are to be part of the process of achieving this.
- If the clustering of schools is the “next big idea” in the New Zealand context different solutions for different contexts need to be designed with the sector participants and key principles are needed to guide the process around supporting student success in learning, community engagement and capacity building at different layers of schools and communities.

Systemic improvement is different from education focused on innovation – one is a subset of the other, because

- As networks form how they evolve will be based on the beliefs, the skills and the commitment of the leaders
- If there is to be another layer of organisation within our system, we need to consider what is needed to make it work? Implications for role changes at every level of the MOE will also impact
- Creating spaces to inquire, to experiment , to innovate – means rethinking current uses of time/resources/types of evidence/opportunities to co-inquire/links to other knowledge, research, innovations ...

### (b) System-ness

- Negotiating the dismantling our current system to a “market-place of providers” managed by the Ministry of Education means principles of social justice, equity and social mobility need to be monitored. Overseas evidence is NOT strong that less state intervention creates more equity. Indeed it is the opposite –

where Finland's plan focused equity at the centre of all political agendas this is what was achieved.

- Structural changes around the creation of time for joint collaboration need to be built into the national annual calendar – e.g., Four 'Teacher Only Days' per year for every teacher to engage in network activities, ongoing network events to mobilise knowledge at different levels of the system.
- Roles at each level of the education system need to be reviewed, redefined and developed so all participants are focused on supporting the development of individual and collective 'professional capital' at different levels of the system.
- Systems coherence could be developed through 'revolving roles' at network level, regional level and national level. Leaders and practitioners could work at different levels of the system in fixed term roles, to support collaborative work and capacity building at all levels of the system.
- A balance of external accountability, joint ownership of learning challenges and internal accountability amongst members of networks needs to be found, so joint collaboration is a motivating dimension of the New Zealand education system.
- Flexibility in network structure, size and geographical location is needed, so different schools, in different contexts can form networks that will best serve their schools' communities – e.g., Special needs schools, Māori bilingual schools, Catholic schools, Digital medium schools, Enviro-schools.

### (c) Culture of collaboration

- Networks need to develop a long-term vision for what they want to achieve, collectively, for their students, in their context.
- Mind-set shifts, underpinned by moral purpose, shared values and beliefs, need to inform both school and network decision-making, so over time all students in all schools are supported to achieve success in learning by the network. A culture of collaboration cannot be mandated. It can be modelled. Its value can be emphasised. It can be celebrated.
- Incremental innovation needs to be understood to be the product of joint co-construction of new learning. Innovation is about rapid change, to keep pace with an ever-changing world; possible to achieve in pockets but harder to upscale with confidence because it happens in specific contexts. It is something that is built on over time because like Darwin's 'eureka moment' about the theory of evolution, it does not happen in a split second; it becomes the end point of all that had gone before.
- Multiple opportunities for leaders and teachers to collaborate within and across schools need to be created.
- Collaborative work needs to be ongoing, underpinned by evidence and sound pedagogical practice, and be seen to be valued by educators at all levels of the system.
- Systems to share effective practice need to be established.

#### (d) Leadership

- Respected 'network experts' that are not external providers, need to be identified and employed by the Ministry of Education, to provide useful, relevant support for networks across the country, on an ongoing basis.
- Professional development around the principles of effective networking and stages of change management needs to be available to leaders to inform strategic decision making.
- Leadership professional development, to develop skill-sets that will support the development of a 'culture of collaboration' within and across schools needs to be available to build network leadership capacity. This professional development could potentially align to network roles and career pathway structures.
- Additional professional development in a range of different network roles needs to be developed to support network activities effectively. These could potentially aligned to network roles and career pathway structures.
- Rewards for individual leaders and teachers need to be replaced by collective acknowledgement of leaders and teachers, who together, achieve success through their collective efforts.
- Remuneration for network roles need to be linked to skill-sets, levels of expertise and time commitments required of participants.

#### (e) Resourcing

- Backbone resource for networks of schools needs to be provided, to support key functions of the network.
- Support to utilise the potential of technology for network activities could be provided, using current network innovation leaders to model and share their learning.
- Release time for teachers to engage in joint collaborative work needs to become part of the collective employment contract conditions.
- Ways to mobilise knowledge across networks and at different levels of the system needs to be resourced, to maximise the effective work networks engage in.

#### (f) Evaluation

- Evaluation tools that are 'fit for purpose' need to be developed to support networks at different stages of network development.
- Examples of tools need to be developed and made available for networks that can be modified or adapted for different network contexts.
- Evaluation information needs to be used to inform 'next steps' of an ongoing inquiry cycle.
- Feedback and feed-forward from all participants at all levels of the network need to inform decision-making processes.

- Joint research network projects could be established to further develop this area of network endeavour.

In New Zealand, we are on the brink of a new chapter in our education history that promises to disrupt and transform our current education system. Moving from self-managing schools to networks of schools is a huge opportunity and a huge challenge. Principals are being asked to lead the change and their role in developing a national 'culture of collaboration', supported by systems change, is critical to its success. How to support principals as they engage in conversations about networks and networking, was the focus of the final section of this report.

### **Pearls for Principals**

*"If one does not know to which port one is sailing, no wind is favorable".*

Lucius Annaeus Seneca

It is a slow process to develop the platform upon which to build an effective network that will sustain over time. There is a 'forever tension' between wanting immediate results and people used to having autonomy to learn at their pace, to work to their timetables, to be adaptive and responsive in their schools, to seek out new learning and to action this. Networking requires educators to make time for collaboration, sharing, dialogue and debate that leads to deeper learning, involving multiple stakeholders in different contexts, to see value in sharing differing versions of expertise and perspectives. It involves changing professional practices, instruction, beliefs about themselves as learners, teachers and leaders.

In the process of establishing networks and engaging in joint collaboration, creating time for dialogue that is purposeful, focused and leads to commitment to action will become more and more part of the new 'New Zealand networking culture'. Below are three Network Dialogue Scaffolding Rubrics, based upon general principles of effective networking, that have been designed to use as a guide to support dialogue, as networks participants move through different stages of network development.

# Network Dialogue Scaffolding Rubric

## Starting a network – The exploring phase

Criteria	Question(s)	Actions
<b>Vision</b>	What is the long-term vision for this network?	
<b>Purpose</b>	What is the purpose of this network?	
<b>Relationships</b>	Who are the members in your network? What do you know about each other? What core values do you share? How are you connected in a formal professional capacity? How are you connected informally, through social connections?	
<b>Understanding network context</b>	What do you know about each school context? What is similar? What is different? What PLD has each school done in the last three years? What is similar? What is different? What other successful networks or projects have you been involved in? What made them successful?	
<b>Leadership capacity</b>	What network leadership experience do school leaders have at this time? What are perceived personal/professional areas of strength/areas for development that leaders are working on at present? What types of school leadership models or structures do schools operate at present? Why? What professional learning opportunities are created to develop middle and senior leaders' capacity at present?	
<b>Current network capacity levels</b>	What are the strengths of the leadership teams in each school across the network? What are the strengths of the teachers in each school across the network? What are the current levels of student achievement in each school? What are the current strengths of each school in the network?	

Criteria	Question(s)	Actions
<b>In school capacity assessment</b>	<p>What capacity do individual schools have to work as a network?</p> <p>What needs to be done to strengthen capacity in individual schools?</p> <p>To what extent are school cultures strong/connected/supportive of student learning?</p>	
<b>Pedagogy/Research to inform network collaboration</b>	<p>What research or pedagogical approach could inform work done across the network in area/s of common interest?</p> <p>What outside expertise is needed to inform decision-making?</p>	
<b>Network annual plan (to be aligned with individual school plans)</b>	<p>What network meetings/events/activities are to happen each term?</p> <p>Who is to be involved in each meeting?</p> <p>Who is to lead this? What organisational support is needed?</p> <p>Dates/times/venue/personnel information</p>	
<b>Meaningful data</b>	<p>What data protocols need to be established? By whom? For what purpose?</p> <p>What data needs to be collected, collated, analysed – and for whom?</p> <p>How is information to be collected from key stakeholders</p> <ul style="list-style-type: none"> <li>- Leaders</li> <li>- Teachers</li> <li>- Staff</li> <li>- Students</li> <li>- Parent communities</li> <li>- Strategic partners (e.g., ECE, Tertiary)</li> </ul> <p>What tools are to be used?</p>	
<b>Resourcing</b>	<p>What time, space and resource decisions need to be made?</p> <p>In what way will technology be utilized to support network development?</p>	

Criteria	Question(s)	Actions
<b>Backbone organisation</b>	<p>What type of memorandum of understandings needs to be drawn up for Boards of Trustees to consider?</p> <p>What is the governance structure of the network going to be?</p> <p>What key roles need to be established?</p> <p>What need to be in the job descriptions for each role?</p> <p>Which school/person is going to oversee finances of the network?</p> <p>What are the sources of income for the network? What is the budget? Who is to do the first budget?</p> <p>What administration resources need to be organized when setting up the network?</p> <p>What data bases need to be set-up?</p> <p>What communication systems do you need to establish?</p> <p>What will be reported and to whom?</p> <p>What protocols need to be agreed? e.g., Code of conduct</p>	
<b>Knowledge mobilisation</b>	<p>Who are the key stakeholders in the proposed network?</p> <p>What information is required by different stakeholders?</p> <p>Who is to collect, collate and write reports for different stakeholders?</p>	
<b>External support/External partners</b>	<p>Who are potential partners?</p> <p>Who could add value and/or support network goals?</p> <p>Who will liaise with external partners? How could external partners be involved in the network at this stage of development?</p>	
<b>Exit strategy</b>	<p>What protocols around exit strategies need to be developed for schools who choose to withdraw from a network?</p>	

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## Networks in process – Developing/Deepening phase

Criteria	Question(s)	Actions
<b>Revisiting the purpose</b>	Is the purpose of the network still relevant? How will prior networking activities inform the next phase of work?	
<b>Relationships/trust</b>	To what extent is relational trust developing within schools (Leaders, senior leaders, lead teachers, teachers, students, parents, and partners)? To what extent is relational trust developing across the network – at each level (leaders, senior leaders, lead teachers, teachers, students, parents, and partners)?	
<b>Self-review</b>	What has been achieved in terms of improvement and innovation a) within schools and b) across schools? What has changed? School contexts? Personnel? What structures are in place/need to be in place to support the next phase of network development? To what extent are decision-making processes explicit/owned/understood by all participants?	
<b>Sharpening the focus</b>	What are the common goals that the network will focus on, building on prior networking activities?	
<b>Leadership capacity</b>	What network leadership capacity has been developed to date? What roles have been established to support the development of leadership skills and knowledge? What new roles need to be developed to support this phase of network development?	
<b>Annual plan</b>	What network meetings/events/activities are to happen each term? Who is to be involved in network activities/events/meetings? What PLD is in place to support capacity building within and across schools? Who leads this? Organises this? <ul style="list-style-type: none"> <li>- For leaders</li> <li>- For teachers</li> <li>- For students</li> <li>- For individual schools/school communities</li> <li>- In partnership with other organisations</li> <li>- As a network</li> </ul> Dates/times/venue/personnel information	

Criteria	Question(s)	Actions
<b>Meaningful data</b>	<p>What data needs to be collected, collated, analysed – and for whom?</p> <p>How is information to be collected from key stakeholders?</p> <ul style="list-style-type: none"> <li>- Leaders</li> <li>- Teachers</li> <li>- Staff</li> <li>- Students</li> <li>- Parent communities</li> <li>- Strategic partners (e.g., ECE, Tertiary)</li> </ul> <p>What tools are to be used?</p>	
<b>Resourcing</b>	<p>What time, space and resource decisions need to be made?</p> <p>In what ways could technology supporting network development be developed further?</p>	
<b>Backbone organisation</b>	<p>Key roles – What needs to be reviewed? Clarified? Confirmed?</p> <p>Annual Budget/sources of income for the network?</p> <p>Communication systems – What needs to be reviewed? Improved?</p> <p>Data collection/collation/analysis/use</p> <p>Reporting schedules</p> <p>What protocols need to be reviewed?</p>	
<b>Knowledge mobilisation</b>	<p>Who are the key stakeholders in the networks in this phase of development?</p> <p>What information is required by different stakeholders?</p> <p>Who is to collect, collate and report to different stakeholders?</p> <p>In what ways is network learning to be systematically shared within the network? Across networks?</p>	
<b>External support/External partners</b>	<p>Who could add value and/or support network goals at this phase of development?</p> <p>Who will liaise with external partners?</p> <p>In what ways can partnerships add value in this phase of network development?</p>	
<b>Exit strategy</b>	<p>What aspects of the exit strategy protocols need to be reviewed/revisited to ensure honourable exit strategies are in place?</p>	

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## Networks in process – Bedding down/Sustainability

Criteria	Question/s	Actions
<b>Revisiting the purpose</b>	Is the purpose of the network still relevant? How will prior networking activities inform the next phase of work?	
<b>Relationships/trust</b>	To what extent have relationships developed at every level within schools? To what extent have relationships developed at every level of the network? To what extent are members of the network connected to other networks and at different levels of the education system?	
<b>Self-review</b>	What has been achieved in terms of improvement and innovation within schools and across the network? What needs to be the next foci? To what extent are current systems/structures/processes effective in meeting the needs of the network? What needs to change/evolve to better meet the needs of the network in the next phase of work? (structures, roles)	
<b>Sharpening the focus</b>	What are the common goals that the network will focus on, building on previous work?	
<b>Leadership capacity</b>	What network leadership capacity has been developed to date? What roles have been established to support the development of leadership skills and knowledge? What new roles need to be developed to support this phase of network development?	
<b>Annual plan</b>	What network activities/events/meetings are to happen each term? Who is to be involved in network activities/events/meetings? What PLD is in place to support capacity building <ul style="list-style-type: none"> <li>- For leaders</li> <li>- For teachers</li> <li>- For students</li> <li>- For staff</li> <li>- For individual schools/ school communities</li> <li>- As a network</li> </ul> Dates/times/venue/personnel information	

Criteria	Question/s	Actions
<b>Meaningful data</b>	<p>What data needs to be collected, collated, analysed – and for whom?</p> <p>How is information to be collected from key stakeholders</p> <ul style="list-style-type: none"> <li>- Leaders</li> <li>- Teachers</li> <li>- Staff</li> <li>- Students</li> <li>- Parent communities</li> <li>- Strategic partners (e.g., ECE, Tertiary)</li> </ul> <p>What tools will be used again to create longitudinal data?</p> <p>What new/different tools could be used to measure different aspects of the network?</p>	
<b>Resourcing</b>	<p>What time, space and resource decisions need to be made?</p> <p>In what ways could technology supporting network development be developed further?</p>	
<b>Backbone organisation</b>	<p>Key roles – What needs to be reviewed? Clarified? Confirmed?</p> <p>Annual budget/sources of income for the network?</p> <p>Communication systems – What needs to be reviewed? Improved?</p> <p>Data collection/collation/ analysis/use</p> <p>Reporting schedules</p> <p>What protocols need to be reviewed?</p>	
<b>Knowledge mobilisation</b>	<p>Who are the key stakeholders in the network?</p> <p>What information is required?</p> <p>Who is to collect, collate and report to different stakeholders?</p> <p>In what ways is network learning systematically shared within the network? Across networks? At different levels of the system?</p>	
<b>External support/External partners</b>	<p>Who could add value and/or support network goals at this phase of development?</p> <p>Who will liaise with external partners?</p> <p>To what extent can partners add value to the work being done across the network?</p> <p>Who can champion the work being done in the network? Where? How?</p>	
<b>Exit strategy</b>	<p>What aspects of the exit strategy protocols need to be reviewed/revisited to ensure honourable exit strategies are in place?</p>	

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## Conclusion

Eventually everything connects —people, ideas, objects...the quality of the connections is the key to quality.

Charles Eames

It is hoped that this report provides useful information for principals in this time of change and that it will be a catalyst for dialogue around the development of knowledge of networks and networking in the New Zealand context. Clarity around the principles of effective networking is needed. More than this, a long-term vision for educational excellence in New Zealand is needed—one that is focused on creating a ‘culture of collaboration’ at all levels, supported by systems structures that are flexible and underpinned by positive drivers for change.

It is a time for courageous and moral leadership. As principals we need to be partners in systems change decisions, to co-construct the design of our ‘communities of learning’ and to be genuine partners in the change we want to achieve long-term. As Senge (1990) states a learning organization is one...

where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together. (p. 3)

The challenge before us is to use our collective wisdom to create effective networks of schools, committed to supporting all students in all our schools, to achieve success in learning, together.

Nau te rourou  
Naku te rourou  
Ka ora i te tamietī.

With your contribution  
And my contribution  
Our children will be well.

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