2 Teachers leading reform through inquiry learning networks

A view from British Columbia

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This book presents the case that teacher–led in the form of professional collaboration is a powerful force for change. We agree. For the past 16 years we have been facilitating voluntary networks of schools in British Columbia, Canada. Over this time, we have seen the significant impact that teacher leaders can have when they are linked, supported and engaged in learning communities that use a common framework for disciplined inquiry. From an initial group of 30 schools in 2000, the networks have expanded to include close to one-third of the schools across British Columbia and the Yukon. We have learned a great deal from the work across these schools and international interest in this networked approach to system change is growing. British Columbia was identified as one of the four high performing systems for the 2016 research study *Beyond Professional Development: Teacher Professional Learning in High Performing Systems* (Jenson, 2016). The Whole Education Network in England is using the BC network approach to disciplined inquiry as the framework for a significant initiative focused on closing the gap for underachieving learners. British Columbia was invited to be part of the OECD / CERI Innovative Learning Environment[1] research study and to participate specifically as one of the five international learning labs because of the focus on inquiry networks and the development of teacher leadership as a driver for system change.

In the forthcoming *Innovative Learning Environment Handbook* (2016), David Istance argues that learning leadership is critical for reform and innovation. He further argues that the impetus for innovation comes neither exclusively from top down mandates nor from bottom up pressure. Rather, he suggests that innovation often occurs through rich connections in the meso level:

> [Learning leadership] is exercised through strong visions and corresponding strategies intensely focused on learning. It calls for shared, collaborative activity, not relying only on the principal, in which learners themselves are privileged players. Such leadership may well extend beyond the school in contemporary learning environments embedded in a rich web of networks and partnerships.
>
> (Istance, 2016, p. 29)

In this chapter, we describe the ways in which teacher leadership embedded in rich webs of inquiry learning networks in British Columbia is contributing to system change. We also offer perspectives about sustaining and supporting learning communities both within and across schools. The chapter is organized in five sections:

1 The links and distinctions between professional learning communities and inquiry learning networks;
2 The key conceptual foundations for the BC inquiry learning networks;
3 The importance of a disciplined approach;
4 The evidence of impact;
5 Sustaining teacher led reform through inquiry networks – considerations for other jurisdictions.

Professional learning communities and Inquiry Learning Networks

Much of the early work on professional learning communities (PLCs) focused on the school as the unit of change. For instance, Bolam and his colleagues (Department for Education and Skills [DfES], 2005) defined a PLC as a within school community "with the capacity to promote and sustain the learning of all professionals with the collective purpose of enhancing student learning" (p. 145). The impetus in the early days of professional learning communities was to get PLCs flourishing in schools and then to look for ways to connect across schools. The approach we took in BC was to find, support and connect educators who sometimes were working in cultures that were *not* supportive of collaboration. We wanted to show the difference that could be made when teacher isolation was reduced and inquiry was encouraged. Our hypothesis was that structures – and support – could follow initiative rather than drive them.

Helen Timperley and her colleagues at the University of Auckland make a distinction between PLCs and teacher inquiry (Timperley, 2011; Timperley, Wilson, Barrar & Fung, 2007). Timperley argues that engaging in rigorous inquiry into teaching and learning practices helps educators to identify the gaps between student's learning and teachers' teaching practices. This then encourages changes in teaching practices that consequently lead to improved outcomes for students. A small but important comparative study of three PLCs (Nelson, 2009) concluded that where the inquiry was sustained (in one of the three schools) both individual and collective learning were evident; in the other two schools such learning failed to materialize. What was evident in this study is that it is not PLCs per se that matter but a collaborative, student–focused teacher inquiry stance that made a positive difference.

In their work, Timperley and Parr (2011) explored the impact of the well–funded and supported Literacy Professional Development Project in New Zealand schools two years after the completion of the initiative. They found that, if teachers applied what they had learned in *systematic* ways during the

literacy program, this was enough to support similar gains in achievement for new cohorts of students. However, when teams of teachers engaged in an iterative cycle of inquiry, re-focusing on persistent issues of underachievement, investing in continued knowledge building and establishing coherence in learning and teaching practices across curriculum areas, they dramatically *improved* their achievement gains over time, especially for their most vulnerable learners. When we learned of these findings, our determination to create cultures of inquiry in all network schools was reinforced.

There was an important contextual reason for our decision to focus on developing inquiry learning networks across schools rather than to focus specifically on professional learning communities within schools. In British Columbia, relationships between the formal teachers' association and the government have been difficult for several decades. Job action has been part of the provincial scene with a protracted teacher strike in 2014 adding additional strain to the relationship between teachers and principals. Although there has been encouraging progress recently, these relationships require on-going attention. A culture of mistrust makes top down mandates of any kind especially problematic.

The term "professional" in the context of PLCs has been interpreted in some BC schools and districts to refer only to teachers with the exclusion of principals, support staff, cultural workers and educational assistants. To build a culture of trust and inquiry, and to address the challenges of equity and quality across all schools, an inclusive approach was required. As well, it was important to use language that reflected the emphasis on inquiry, learning and networking. Originally referred to as the Network of Performance Based Schools, the name was changed in 2009 to Networks of Inquiry and Innovation[2] as a broader term to better reflect the work underway.

Key foundations for inquiry learning networks

During our experience with inquiry learning networks as catalysts for system reform, we have actively searched for research studies and practice evidence to inform the work. Over time these ideas have been distilled into a number of foundational elements that have helped to set the direction and to maintain the focus on quality and equity across diverse settings.

1. Intense and shared moral purpose through common goals

Having a sense of shared purpose and a set of common goals for inquiry learning networks is very important. Being clear on why we do what we do in school-to-school networks creates momentum and motivation. The concept of setting ambitious goals that are heartfelt, animated and challenging provides a way of thinking about whether or not the directions established for inquiry learning communities will capture the hearts and imaginations of those involved. Initially the network focus was on assessment for learning as the means to

develop learner agency and engagement. Over time this focus has come to be expressed in the three goals that have emerged directly from the educators actively involved in inquiry networks. These goals are now reflected in many district and provincial policy statements:

1. Every *learner crossing the stage with dignity, purpose and options*.

This means that collectively we have agreed to strive for equity and quality through achieving a 100 percent secondary school completion rate. Each learner will experience acceptance and respect for their personal identity. They will each have a sense of direction and purpose – and they will have genuine options for their future learning regardless of the path they choose.

2. Every *learner leaving our settings more curious that when they arrived*.

Educators we work with have observed that learner curiosity often diminishes over time in school. And, they agree that this is counter to what we hope to achieve through our educational programs. A key goal of system reform is to design learning environments that promote deeper forms of engagement, more opportunities to pursue important questions in depth and a genuine love of learning.

3. Every *learner developing an understanding of, and respect for, indigenous ways of knowing*.

Developing the capacity for expanded worldviews is important for all citizens in complex and globally connected societies. Within the context of British Columbia, there is a moral imperative for learners of all ages to develop a greater understanding of the perspectives and contributions of indigenous people. The legacy of colonization and of residential schools has contributed to inequitable challenges for Aboriginal learners. Recent efforts to improve outcomes are encouraging[3] – and there is still much to be done.

2. Growth mindset and assessment for learning

Carol Dweck's original research on the importance of mindset in learning and the many subsequent studies by her colleagues examining the impact of a growth mindset on learner outcomes has had a significant influence on network thinking. Enacting the research evidence about the kinds of changes that are possible when learners have access to new strategies and appropriate support – and put forth more effort – has become an essential part of the network approach.

   From the outset, one of the key goals across the networks has been the development of learner metacognition and agency. A deep understanding of both the intent and the strategies of assessment for learning provides the bridge

from teacher directed learning to student ownership. As educators within the network have gained confidence in making changes to their assessment practices, they have developed resources, conducted workshops, done side-by-side coaching to assist colleagues in shifting their practices and used social media to communicate emerging understandings.[4]

3. A focus on learning and learning principles

The OECD publication *The Nature of Learning* (Dumont, Istance & Benavides, 2010) contains a summary of findings from a number of international researchers about what makes a difference to student learning. The seven transversal principles identified by the editors of this book have become fundamental to the inquiry work in BC. They provide a lens for understanding the learning experiences of our young people and help identify areas that need to be strengthened. The principles also help focus initiatives in areas that have a strong evidence base. With growing enthusiasm for innovation and a desire for system reform, it is easy for policy makers to get distracted by promises of quick fixes. The conclusion by the OECD team that a learning environment cannot be considered innovative unless all seven of the following principles are evident in the experiences of all learners can be very helpful in informing intelligent reform efforts:

1   Learners and their learning are central. Learning is engaging and learners are gaining strength in self-regulation and metacognition.
2   Learning is social and often collaborative through well-organized cooperative strategies.
3   Learning is highly attuned to learners' motivations and the importance of emotions.
4   Learning is sensitive to individual differences including prior knowledge.
5   Learning is demanding for each learner – without excessive overload.
6   Assessments are consistent with learning aims with strong emphasis on formative feedback.
7   Horizontal connectedness is promoted across learning activities and subjects both in and out of school in the broader communities.

In addition to drawing on the OECD learning principles, networked inquiry communities in British Columbia are actively applying the indigenous learning principles developed in our province. From a First People's perspective, learning needs to be focused on connectedness, on reciprocal relationships and a sense of place. An indigenous worldview acknowledges that learning involves recognizing the consequences of one's actions, values the role of patience and the need for time and requires exploration and development of one's personal identity. The practical implications for teachers incorporating the First Peoples' Principle of Learning into their practices include creating greater connections to the broader community and the wisdom of Elders. It also includes the need

for educators to make explicit what is being learned in terms of how it influences the self, the family, the community and the land[5].

Both these sets of principles are serving to inform system reform in British Columbia. We contend that inquiry floats on a sea of innovation. Having inquiry informed by the best of international research and grounded in the wisdom of indigenous people of the territory assists in generating the kinds of innovations that will genuinely shift the system.

4. Social emotional learning, self-regulation and metacognition

An additional foundation for the inquiry learning networks in BC consists of four key questions that are drawn from research on social emotional learning and self-regulation. All network participants are asked to use these four questions intentionally with their learners as a key part of the inquiry process:

- Can you name two people in this school or learning setting who believe that you will be a success in life? How do they let you know?
- What are you learning and why is it important? Where are you going with your learning?
- How are you doing with your learning?
- What are the next steps in your learning?

These questions sound deceptively simple. When used as a regular routine, however, educators have found that they have a profound effect on shifting practices to increase learner sense of belonging and self-regulation. The first question quickly helps educators identify learners who do not feel connected to adults within the school – and propels them to immediate action. The three cognitive questions help move educator thinking from a preoccupation with content coverage to a focus on what learners actually experience. Student responses provide timely evidence about the extent to which young people are developing greater agency as learners.

5. Teacher professional learning

The final foundational idea for the inquiry networks involves ensuring that designs for teacher professional learning draw on current research and practice evidence. Research into the aspects of teacher professional learning that have an impact on student outcomes has had a significant influence on the approaches taken in BC. Helen Timperley's work on teacher professional learning has been deeply influential. Understanding that teacher professional learning should be based on the identified learning needs of students seems straightforward and yet this does not reflect the reality of many professional development programs – especially those packaged programs that promise dramatic improvements. Professional learning communities that do not incorporate a thorough understanding of the learning needs of their students are doomed to fail.

The previously mentioned research report, *Beyond Professional Development: Teacher Professional Learning in High Performing Systems*, examined teacher professional learning in four high performing systems: Shanghai, Singapore, Hong Kong and British Columbia. Although the cultural context of BC is different from these other jurisdictions, the themes that were identified across systems have provided validation for the approach of the inquiry learning networks. Lead researcher Ben Jensen notes "the strategic approach adopted in these systems requires all professional learning to be developed around an improvement cycle in schools that is always tied to student learning" (2016, p. 4). He further observes that, in isolation, an improvement cycle is not sufficient. To make it effective requires a broad strategy with strong linkages between how leadership roles are structured, how resources are allocated and the focus of accountability measures. With specific reference to BC, the report acknowledged the impact of inquiry networks and a disciplined approach to professional inquiry as contributing to the strength of the BC system.

A disciplined approach to networked inquiry

Right from the outset with the inquiry networks, BC schools agreed to engage in an annual cycle of inquiry to focus their efforts on improving student outcomes. Building on insights from the BC case studies and from the research in New Zealand on teacher professional learning, we collaborated with Helen Timperley to design a new approach to professional inquiry that we describe as a spiral of inquiry. There are several features that distinguish the spiral of inquiry from other action research approaches. It starts with a deep understanding of learning and the experiences of learners. It requires a collaborative approach by teams of educators. It builds in the findings from research on social emotional learning. It is specifically designed to change outcomes for learners. The terminology used respects teacher judgment, their lived experiences and their language. It draws on the school effectiveness and improvement literature while also incorporating frameworks from the emerging understandings about innovation. The approach is built on the best of what we currently know about professional learning. It insists on incorporating indigenous learning perspectives. It is evidence-informed at every stage through an emphasis on ongoing checking about student agency, self-regulation and metacognition.

The spiral of inquiry involves six key stages of scanning, focusing, developing a hunch, engaging in new professional learning, taking new professional action, checking that a big enough difference has been made and then re-engaging to consider what is next. Although the stages in the spiral overlap, paying attention to each aspect is critical in achieving the greatest benefit for all learners. At every stage, inquiry teams ask themselves three important questions: "*What's going on for our learners?"; "How do we know?*"; and "*Why does this matter?*"

The first two questions prompt educators to check constantly that learners are at the heart of what they do, and that all decisions are based on thoughtful evidence from direct observations and interviews in addition to more formal

What's going on for our learners?
How do we know?
Why does this matter?

FOCUSING

SCANNING

DEVELOPING A HUNCH

NEW PROFESSIONAL LEARNING
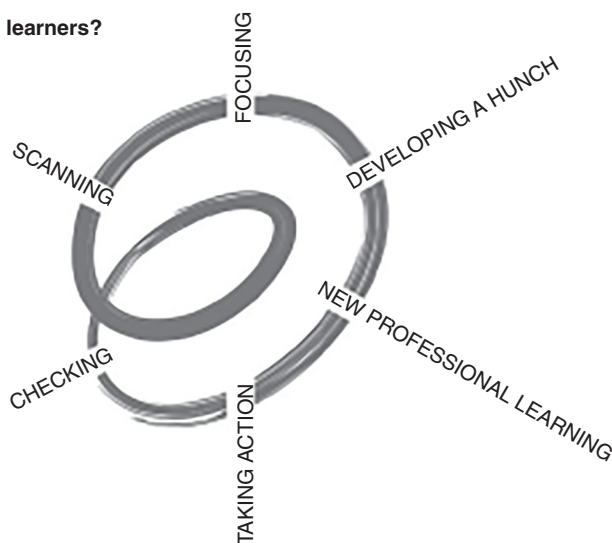
CHECKING

TAKING ACTION

Figure 2.1 The spiral of inquiry, learning and action (Timperley, Kaser & Halbert, 2014)

data sources. The third question helps to ground teams in the importance of the direction they are pursuing. What follows is a short description of the key aspects of each stage.

Scanning: What's going on for our learners?

Just about everyone in a school community has opinions about what is going on for learners. Scanning is about collecting rich evidence about what is *really* taking place. It requires inquiry teams to challenge assumptions and to dig deeper to ensure that they have real evidence to support their beliefs. In a reasonable amount of time – generally no more than two months – inquiry teams gather information in key areas of learning. It is impossible to scan for everything that is important; it is necessary to select some key areas as a starting point. These areas may include personal identity, mathematical confidence, emotional well-being, creativity, scientific understandings, appreciation of other cultures or joy in reading. These initial areas of scanning may emerge from student achievement data, from teacher concerns, teacher curiosity or observations.

A thorough scanning draws on the learning principles from the OECD and the First Peoples' Principles of Learning to determine the extent to which learners' experiences are reflective of what is known and valued about learning. It is impossible to engage in scanning without involving the learners themselves. Understanding the degree to which students feel emotionally connected to adults in their learning environment and the degree to which they fully understand the key learning goals are critically important starting points in

scanning. When educators listen to the answers of their learners in response to the four key questions described previously, the impact can be profound. Scanning can reveal a great deal of information that can pique educator curiosity and open up additional possibilities for a closer look. After a reasonable amount of time, initial decisions need to be made about where to focus greater attention.

Focusing: Where are we going to place our attention?

In the focusing phase, inquiry teams ask themselves: *Where are we going to concentrate our professional energies so that we can change the experiences and results for our learners?* Sometimes, the scanning process reveals a somewhat puzzling picture that requires deeper investigation. For example, an initial scan may identify that some learners are deeply engaged in their learning while others are not. Some learners may express a great deal of interest in particular content areas; others say it is totally irrelevant. Some learners are making good progress in developing key competencies; others are stalled. Some learners feel well supported by the adults in their school; others do not. Gaining greater clarity about the situation for learners by hearing from them directly before deciding on a course of action is at the heart of the focus phase. Unlike the scanning process, which requires both a broad perspective and a willingness to listen to the views of learners and their families, the focus stage requires deciding amongst competing priorities. Selecting the one or two areas on which to focus means that inquiry teams will consider the strongest possible new areas of learning – ones that will help learners make big leaps forward.

Developing a hunch: What's leading to this situation and how are we contributing to it?

The phases in the spiral of inquiry framework often overlap; the framework is not a linear process. Evidence from one stage informs the next. Surprises are inevitable and welcomed. They open up the opportunity for reflection and new understandings. The hunch stage asks educators to probe, "what's leading to this situation?" and, even more important, "how are *we* contributing to it?" Everyone generally has hunches about why things are the way they are. Sometimes these views are passionately held. Getting them on the table in a way that they can be discussed and tested is fundamental to moving forward together.

New professional learning: Where and how will we learn more about what to do?

All phases of the inquiry spiral involve learning but at this stage, educators engage with the specific task of carefully designing *new* professional learning. At this point, inquiry teams identify "*how and where can we learn more about what to do?*" The professional learning focus often flows organically from testing out the hunches about what is leading to the situation for learners. Both internal

and external expertise may be required depending on the context of the school and the current capacity of the educators in the focus area. New learning also requires attention being paid to research evidence and emerging promising practices. The evidence about professional learning and improved learner outcomes in significant areas indicates that a year of focused effort is required. One year is good; two years are much better and three may be required.

Taking action: What will we do differently?

This is the stage in the inquiry spiral where new learning leads to new practices. Once teams have the evidence and the knowledge about the practices that will help learners, it is time to take action by jumping across the knowing–doing gap. At this stage, the inquiry team makes sure that all those involved are supported to try out the new practices. Teams need to make sure that there are plenty of opportunities for dialogue, observation and reflection. Changing practice can feel risky for many teachers and inquiry teams need to find ways to make the risk-taking less risky. Sometimes second, third and fourth tries are required without fear of judgment or failure.

Checking: Have we made enough of a difference?

The purpose of the inquiry spiral is to make a difference in valued outcomes for learners. Changes in practice do not always lead to substantive improvement and it is in this part of the spiral that inquiry teams ask whether they are making *enough* of a difference. The key is to have general agreement ahead of time about what evidence to look for as well as what constitutes enough of a difference.

What does this look like in practice? During the scanning process, the staff working with a disengaged group of struggling learners in a large urban secondary school noticed that, when the students were involved in hands on learning activities in an outdoor setting, they were far more focused, happy and productive. The staff decided to focus their inquiry on helping students develop more pride and a sense of purpose through goal setting and by exploring a range of career options. Their hunch was that traditional classroom settings did not work for many of their disengaged learners. They decided to provide more learning experiences outside of the school and connected to the community. As part of their professional learning, the staff explored the interests of their struggling learners and reached out to the community to offer job-shadowing opportunities for them. They also learned more about place-based learning and problem-based, hands-on approaches. The changes they made allowed students to develop employability skills and learn from a variety of caring adults sharing stories of their lives in their families, communities and work places.

So what difference did this make? At the beginning of the school year none of the participating students planned to pursue post-secondary education. By the end of the year, there were high levels of intellectual engagement and all

the students had plans to continue on to post–secondary study. For these students the potential impact on their life chances was profound.

The impact for their teachers was also significant. Instead of experiencing frustration with the seeming inability of their students to succeed in school, they looked at what was working for their students and then made key changes to build on their strengths and interests rather than focus only on their apparent weaknesses. By publicly sharing the story of their success with this group of learners, this networked team influenced practice in many other schools. The inquiry network and the spiral framework provided both the support to try something new – and the discipline to ensure that their efforts were well informed.

Evidence of impact

From the outset we have focused on impact. What difference is the inquiry work making at the individual student, classroom and school level? What measures do we value? What impact are we seeing at the system level? Is it enough? How do we know? In addition to impact for learners, what impact are we seeing for teachers? How is being part of an inquiry network building capacity for teacher leadership and system change? These questions have driven us for the past 16 years and will continue to drive the networks for the foreseeable future.

The inquiry networks started in 2000 with the challenge of encouraging teachers to use a set of learning progressions[6] in reading, writing, numeracy and social responsibility that had been locally developed and rigorously tested in hundreds of classrooms. These learning progressions provided teachers with measures that they trusted and, as a result, schools and districts were able to avoid the obsession with achievement testing that has been counterproductive in other contexts. We agreed with the warning offered by Andy Hargreaves and Dean Fink (2005) when they argued for creating professional learning communities that make deep and broad learning their priority – rather than a narrow emphasis on particular forms of student achievement and reliance on testing regimes. Initially school teams were asked to report annually on the gains they were able to make for their students in the focus area of their inquiry using the learning progressions. As schools have become more confident in using these progressions and as the focus for their inquiries has broadened, additional measures are being used to determine impact. These include levels of intellectual engagement, learner agency, social emotional connectedness, capacity for self-regulation, resilience, community contributions and overall school success.

Being clear on the purpose for inquiry networks helps provide direction for measuring impact. Initially our goals were to engage teachers in using the learning progressions to improve student outcomes and to shift the power from the teacher to the learner through an emphasis on formative assessment. As the inquiry networks expanded and matured the three key goals described earlier have emerged that reflect, in everyday language, what network educators are

striving to accomplish. In short, the goals of system reform from a network perspective in BC are about quality, equity, curiosity, engagement, understanding and respect. So, how are we doing?

Even though the province has high rates of child poverty, a difficult climate of labour–government relationships and a complex and diverse group of learners from all parts of the world, on a range of indicators BC students do very well. The Conference Board of Canada publishes regular reports on Canadian progress towards achieving a high and sustainable quality of life for all citizens. They examine performance in the economy, society, innovation, the environment, health and education and skills. Within the education sector they examine 20 indicators including high school and post-secondary completion rates, achievement levels in reading, math, science, adult literacy levels and adult participation in non-formal job-related education as well as equity measures connected with serving disadvantaged young people. In the most recent report[7] they compared Canada's performance to that of 16 comparable jurisdictions using the size of the population, land mass and income per capita as variables. They also reported on the relative performances of the ten Canadian provinces. On both equity and quality indicators British Columbia was a top performer – in company with Finland and Japan.

We are not claiming that teacher involvement in inquiry networks is solely responsible for the increasingly strong outcomes for BC learners. We were encouraged, however, when a highly regarded policy advisor to a number of systems across the world texted us after the most recent PISA results[8] were released to say "BC leading Canada – that is a network effect." Another way of considering impact is to look at the ways in which network designs and thinking are influencing other provincial initiatives and contributing to a shift in provincial culture.

In 2004, the Ministry of Health and the Ministry of Education launched a joint initiative to focus on healthy living. Representatives from these Ministries were interested in building on the early successes of the inquiry networks in engaging teachers in collaborating around substantive issues of student learning. The question was whether the networked inquiry approach could be applied to health. The Healthy Schools Network[9] now involves over 200 schools across BC and connects health professionals and community members with teachers who are passionate about healthy living.

The next significant expansion of the inquiry networks took place in 2009. School districts and Aboriginal groups had been encouraged by the Ministry of Education to develop formal agreements focused on enhancing the success of indigenous learners. Despite a lot of good intentions, there was limited evidence that these agreements were having an impact on classroom practice. The provincial Director of Aboriginal Education asked whether an inquiry-based network approach could encourage teachers and principals to explore specific ways to make the goals of the enhancement agreements come to life. This led to the formation of the Aboriginal Enhancement Schools Network[10] (AESN) that now includes over 100 schools in BC and the Yukon.

In 2012, the Ministry of Education provided significant funding over a three year period to support an early reading network. This program, titled Changing Results for Young Readers[11] (CR4YR), involved 58 of the 60 school districts with each district having an external facilitator and a designated reading advocate. The majority of the external facilitators and many of the reading advocates were experienced inquiry network educators. CR4YR applied the same disciplined approach to inquiry as had been developed in the inquiry networks and this helped strengthen a sense of coherence across the province.

Network thinking and collaboration is also having an impact at the post-secondary institutional level. The spiral of inquiry as a disciplined approach to teacher collaboration is being introduced in most of the nine pre-service programs. A number of educators who started as classroom teachers in the networks are now on faculties of education and many of them are involved in redesigning teacher education around inquiry mindedness and adaptive expertise. The silos between institutions are being eroded through the personal relationships and respect forged in the networks.

Most teachers we work with do not initially aspire to take on formal leadership roles. They become part of the networks out of a desire to make a bigger difference for their learners and to be part of a professional inquiry community. The practice-focused and evidence-informed graduate leadership programs[12] combined with the on-going community provided by the networks have led to many teachers changing their minds about their career aspirations. Across the province there are also many educators in significant leadership roles – as superintendents, directors, principals, vice principals and senior Ministry staff – who all started out as classroom teachers and whose professional experiences were influenced by their network involvement.

In 2013, the Federal government funded a research study on the impact of teacher involvement in the Aboriginal Enhancement Schools Network. This study, led by Dr Catherine McGregor, titled *Aboriginal Inquiry: Lifting All Learners* (2013), examined several features including the overall impact on the cultures of teachers, school and districts, and the impact on creating leadership for change. The report observed that "the Network is a powerful tool for shared learning among teachers who have a desire to effect change in their schools and to advance the cause of quality, equitable learning" (2013, p. 9). The researchers concluded that there was strong evidence to show sustained, deeply transformative impact in a range of school districts and schools:

> [The network] provides space to develop thinking in diverse and unique ways and doesn't impose a particular model or way of doing things but rather enables the diversity that is the teaching force in BC. It also capitalizes on teachers' deep interest in supporting student learning: this emphasis on putting learning results at the centre of the teachers' efforts to innovate is a spectacularly successful approach. It avoids the pitfalls of top down, systemic efforts at programmatic change because it values the professional knowledge, experiences and capabilities of teachers. It honours their

commitment to teaching and making a difference and then uses that natural energy and passion for the work to invoke deeper thinking about how they can enhance student success. A network that achieves the degree of commitment, passion and dedication we saw throughout this study tells us that it will be sustained even if only by the strength of will shared by its proponents. This is the Network's deepest and most profound area of impact.

(McGregor, 2013, p. 121)

Inquiry learning networks in BC continue to evolve. In 2016, 14 BC school districts agreed to fund a three year research study looking at the impact that a district focus on inquiry was having on student outcomes. The networking that is occurring across these districts as they seek to identify common links and valued measures for determining impact is already changing the nature of dialogue amongst district leadership teams. As well, 14 schools are currently involved in a longitudinal study exploring the impact of their efforts to improve the learning experiences and transition rates for their Aboriginal learners. The links being created across schools, associations, institutions and districts are contributing to a greater sense of coherence in a highly diverse province.

The final section of this chapter includes some perspectives on the ways in which inquiry networks can sustain and support teacher led reform.

1. Sustaining teacher led reform through inquiry networks

Changing an educational system from a focus on sorting to a focus on learning requires a strong sense of purpose, a deep passion for quality and equity and a great deal of persistence. As we reflect on our experience with inquiry and innovation networks over the past 16 years, five key factors that contribute to system change are emerging:

- Finding outlier practices;
- Linking the key influencers;
- Infusing intelligence;
- Consistently developing fresh sources of energy to stay flexible; and,
- Persisting in pursuing network goals and system change.

2. Finding the practices of outliers and making their learning visible

When we looked globally for examples of large scale change in the social sector, we found an impressive example of sustained change in Vietnam.[13] Using a positive deviance model the Vietnamese were able to reduce chronic childhood malnutrition countrywide using a village-by-village peer network strategy. Positive deviants in this case were those families who managed to raise healthier children as a result of small differences in what they were fed – shrimp, crab and sweet potatoes from the rice paddies. Once this practice was identified

and understood, it spread quickly to other families and other villages through a grassroots networking process.

We applied this model to learning practices in the inquiry networks in BC. We found many small yet effective outlier practices where co-agency between teachers and students was a matter of course. As an example, one primary teacher developed a practical approach for teaching young children to read by training slightly older students as reading coaches using a set of teacher developed learning progressions. Her work was reflected in a book chapter[14] and also in a video titled "Learners in the Lead."[15] Once other educators could see what this strategy looked like – and the impact it was having – practices shifted rapidly in other parts of the province. On-going searches for innovative practices and on-line publications of case studies,[16] video documentation and regional storytelling events add to the repertoire of promising practices. An annual network symposium where inquiry teams from across the province share their work introduces new thinking, reinforces the sense of common purpose and provides multiple opportunities to make learning visible.

3. Linking influencers

In inquiry learning networks the strongest influencers tend to be those who, regardless of their role, have a repertoire of changed practice combined with a mindset of pervasive professional curiosity. In every school, regardless of the culture or context, we have found individuals who are eager to learn, who want to make a contribution and who are seeking a broader community. Establishing formal and informal ways to link the influencers has been key to creating and sustaining momentum for system change. Linking involves the use of social media, discussions at the annual symposium, widespread use of video, focused social events, engaging in research studies, shared readings and face-to-face meetings for groups of cross-role educators. These educators embrace a spirit of generosity and have a drive to influence learning practices more broadly than just in their own settings.

> The network brings together educators of all levels and then puts them all on the same level, making us teaching and learning resources for each other. We are all learners; we are all drivers of change; we are all important in the system.
>
> (Network teacher, 2016)

Cross-role linkages are critically important. Students, support workers, teachers, vice-principals and principals, Elders, university faculty, community members, teacher candidates and their mentors can be linked and strengthened through inquiry networks and coherent frameworks. One of the mantras of the inquiry networks is that, when entering a network meeting, everyone leaves their formal role at the door and enters simply as a learner.

4. Infusing intelligence

Teachers are busy people who do not always have the time to seek out the most current research and practice evidence about what will make a difference for their learners. When they have a chance to learn from the innovative practices of their colleagues – and when they work within the discipline of the spiral of inquiry where new learning is an expected and essential part of the process – promising new practices can spread more quickly.

Provincial network leaders curate and disseminate research evidence in a way that is readily accessible. The partnership with the Center for Innovative Educational Research (CERI: OECD) has provided BC networks with key research insights, useful strategies from other countries, cognitive frameworks and tools and critical friendship. Emphasizing the importance of the learning principles from the OECD has helped to keep an informed and intelligent focus across schools and regions. International researchers who can stimulate and challenge thinking in person through the annual symposium also make valuable contributions. Seeking both strong internal practices and powerful international research evidence has helped keep on-going professional learning central to the work of the inquiry networks:

> The network provided me with new ideas, skills and tools, but more than that, it provided me with a learning community that allowed me to make real changes in my classroom.
>
> (Network teacher, 2016)

5. Developing fresh energy through leadership programs and international connections

Sometimes, inquiry groups operate in cultures where support from the formal district leadership team or the local associations may be weak. It is understandable that even the most determined of educators can become discouraged under such circumstances. In these cultures, we have found that infusing fresh leadership energy at a variety of levels helps to build and sustain momentum. It has been important in our work to create formal graduate level leadership programs[17] where participants systematically acquire and apply knowledge about inquiry, innovation, leadership, Aboriginal worldviews and deeper forms of learning. Graduate students use these concepts to change the experiences of learners in their schools and communities. Their face-to-face and online experiences help to create new communities and networks of support for on-going innovative practices. One of the key findings of an early study of international leadership programs (Huber, 2004) was the importance of sustaining the connections among participants after the formal program had concluded. Creating a space for graduates of BC leadership programs to stay linked and to continue to learn in collaboration with others has been helpful in infusing new energy into inquiry networks.

Strengthening lateral connections across institutional and geographic boundaries also helps to bring fresh energy to the inquiry networks. We are pleased that links with educators in England through the Whole Education Network are opening up new opportunities for teacher learning. New connections that are being forged with educators in Australia and New Zealand are creating opportunities that are mutually beneficial. A Facebook group linking BC network educators with Australian colleagues now has over 500 members.

6. Persisting

Observing the challenges of system change in BC and in other jurisdictions has led us to a deeper understanding of the necessity for persistence. There are few, if any, quick fixes. We have seen centralized efforts to mandate change through school-to-school networks flounder and fade away. To create learning systems with high quality, high equity and deep forms of intellectual engagement requires a willingness to persevere over time. As Steven Johnson points out in *Where Good Ideas Come From* (2011, pp. 77–78):

> Most hunches that turn into important innovations unfold over much longer time frames. They start with a vague, hard-to-describe sense that there's an interesting solution to a problem that hasn't yet been proposed, and they linger in the shadows of the mind, sometimes for decades, assembling new connections and gaining strength. And then one day they are transformed into something more substantial. Sustaining the slow hunch is less a matter of perspiration than of cultivation. You give the hunch enough nourishment to keep it growing, and plant it in fertile soil, where its roots can make new connections. And then you give it time to bloom.

Developing more innovative learning environments requires active cultivation. Successful cultivation of any kind requires persistence and attention to the soil conditions. Inquiry learning networks that tackle difficult goals *must* be prepared to persevere often amidst shifting policy and political environments. Having key network leaders in a variety of roles can help accelerate the pace of change and sustain the momentum. Provincial policy makers who minimize mandates and create space for inquiry and innovation to thrive are helping to support new and stronger educational practices. Persistence matters in the building of networks and it matters in sustaining effort and momentum.

> The network as a learning community and support system creates the conditions for educators to make real and lasting changes in practice. As a teacher, the network gave me the support I needed to make changes within my classroom and with my colleagues. As an administrator, the network gives me a vehicle to connect with my staff and school to help

influence change on a larger scale. With the network, I can work alongside teachers in a way that is non-threatening and non-hierarchical. It is not top down or inauthentic. There is rigor and accountability but it is built on true collaboration with a true purpose.

(Network educator, 2016)

Financial support matters and persistence matters more. The inquiry networks in BC have benefited from on-going financial support from the Ministry of Education over the past 16 years. Compared to the investments made in some other jurisdictions, the overall amount of the provincial contribution is modest.[18] We have taken a micro credit approach to supporting schools in the network by providing a small grant[19] at the completion of a year's focused inquiry. Schools are not incentivized to join a network – rather they are thanked for their contribution.

In conclusion, we believe teachers involved in inquiry learning networks in British Columbia are making a significant contribution to system reform. By finding the emerging practices, linking the influencers, continuously infusing new knowledge, developing new leaders at all levels of the system and persisting over time, the BC inquiry networks are helping to change the learning lives of young people in our province and in the Yukon. We are convinced that inquiry networks create and cultivate spaces for professional curiosity and collaboration. As teachers participate in networks of disciplined, collaborative inquiry, they become the leaders of change.

Notes

1 http://www.oecd.org/edu/ceri/Canada-BC-Monitoring-Note-2.pdf
2 http://noii.ca
3 www.bced.gov.bc.ca/abed/performance.htm
4 See for example Brooke Moore's wiki http://ownlearning.wikispaces.com and Jacob Martens' blog http://renomyclass.com
5 For background information and suggestions on how to incorporate First Peoples Principles of Learning into all learning settings please see this blog created by JoAnne Chrona: https://firstpeoplesprinciplesoflearning.wordpress.com
6 8.https://www.bced.gov.bc.ca/perf_stands/
7 www.conferenceboard.ca/hcp/details/education.aspx
8 http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm
9 http://dashbc.ca/what-we-do/programs-initiatives/healthy-schools-network/
1o http://noii.ca/aesn/
11 http://youngreaders.ca
12 See for example https://www2.viu.ca/education/programs/masters/medl/distance/MEDL_brochure_distance.pdf
13 The evolution of this approach is described in *The Power of Positive Deviance: How Unlikely Innovators Solve the World's Toughest Problems* (2010) by Pascal, Sternin and Sternin.
14 See Earl and Timperley's (2008) *Professional learning conversations: Challenges in using evidence for improvement,* Chapter 5, p. 534–68 (Dordrecht, NL: Springer).
15 https://www.youtube.com/watch?v=FYqE98VP-QA
16 http://noii.ca/case-studies/ and http://noii.ca/aesn/case-studies/

17 https://www2.viu.ca/calendar/Education/mastereducation.asp#distance;   http://telp.educ.ubc.ca
18 In 2015–2016 the Province contributed $70,000 to the networks of inquiry and innovation.
19 $500 CDN was provided to each school in 2016.

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