Integrating quality professional learning into the daily life of teachers:
Insights from high performing systems

Learning First is a social enterprise focused on school education policy.

The analysis presented in this report has been conducted by Learning First. The interpretation of how these systems operate are the author’s interpretations. They do not necessarily represent the views nor official positions of governments or officials in the systems analyzed.

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1 Executive summary

Student learning rests on the shoulders of our teachers. Improving the effectiveness of their teaching is the biggest lever we can pull to drive school improvement and student progress.

Teachers' professional learning should therefore be the most effective tool we have to improve student learning; instead it is often the missing cog in the drive to raise school performance. Across many countries and many systems, millions of dollars have been spent on professional development programs that fail to meet teachers’ needs or to lift student performance.

We have ring-fenced professional learning from the practice of teaching. Teachers split their week between the classroom, administrative and other duties and developing their teaching skills, so in reality professional learning is often relegated to student-free days at the start of the year and built around which guru is available on a particular day. This runs counter to all other professions.

Many of our current reform debates reinforce this problem, with an excessive focus on how many hours of professional learning takes place within that fence. These debates will never lead to the improvements required.

High-performing systems inexorably link teacher professional learning to school improvement; removing the artificial divide between teachers’ daily work in classrooms and the dedicated activity of professional learning. As one Shanghai school principal says, “There is no division between professional learning and the work of a teacher in my school.”

So how do systems make the transition to effective professional learning? There are two key factors at play that operate at both the system and school-level. First, is structuring teachers’ professional learning around a three-stage improvement framework of ‘assess, develop, evaluate’. The framework involves:

1. Assessing students’ learning to identify what they are ready to learn next
2. Developing the teaching practices that will provide for the next stage of student learning (and being clear what evidence supports this)
3. Evaluating the impact of new teaching practices on student learning

The final stage takes teachers back to the first step in a continuous cycle of improvement and evaluation that lifts teaching and learning. Teachers learn from assessing the impact of their approach on student learning and use that knowledge to adjust their methods to better address students' needs.

The professional learning this creates is highly collaborative, with teachers working together to determine how to teach lessons more effectively, how to reach struggling students, and how to deliver content in a better way.

Learning communities are the dominant vehicle to deliver this professional learning, supported by strong mentoring programs, the use of external experts, and courses and workshops. For example, external experts help groups of teachers to develop their student assessment skills (stage 1 of the improvement framework), develop new pedagogies (stage 2), or improve skills to evaluate impact (stage 3).

But having this improvement framework is insufficient to make professional learning effective. Many teachers have undertaken professional development that has included elements of this framework but also been of poor quality.

This emphasizes the importance of the second factor; the strategy and key policies that make professional learning effective. These are not just professional learning policies but broader improvement strategies, leadership development, evaluation and accountability arrangements, and school organization so teachers have sufficient time for effective professional learning. These policies embed professional learning in the daily practice of teaching and put teacher professional learning at the heart of school improvement initiatives.

These factors were critical in teacher professional learning driving school improvement in four of the world’s highest performing systems: British Columbia, Hong Kong, Shanghai and Singapore.
Professional learning strategy

These high-performing systems are much more targeted than many other systems in defining and resourcing what is and is not effective professional learning. They manage this centralized direction while still empowering teachers to ‘own’ their professional learning. This is mainly because the three-stage improvement framework empowers teachers and school leaders to take charge of their teaching and professional learning; it is always targeted at what their students most need and that is determined at the school-level.

This shifts the traditional debate on centralized vs. decentralized strategy and has profound implications for how professional learning policies interact with other policies such as evaluation and accountability.

For all its ability to dramatically lift results of student learning, change in these systems was built on a series of small deliberate steps, one building on the other, with real, tangible benefits accumulating along the way. For example, Singapore did not implement all of its reforms in one go; it changed one aspect at a time over many years, pragmatically building on what worked and discarding what did not work until it achieved a finely balanced, interconnected approach.

In British Columbia, professional learning reforms focused on inquiry-based learning communities. These reforms began with small steps. Schools chose a topic of inquiry that would shape their professional learning for the year so they could better address their students’ learning needs. Initially, a number of schools chose social responsibility topics; teachers were more comfortable analyzing these issues collaboratively. It may have been tempting for system leaders to insist on more academic topics (e.g. how to lift numeracy). But once teachers were more comfortable with the new professional learning framework, school after school switched the focus to numeracy and other key learning areas.

Developing new professional learning leaders

These systems develop new professional learning leaders at the school and system level to drive school improvement. In schools, they work closely with school principals and translate school objectives into individual and school professional learning plans.

The job titles vary across systems – school staff developers in Singapore or coordinators of inquiry in British Columbia – what is common is that they lead their peers; they remain one of the teachers. Individual teachers make behavioral shifts when they see colleagues they admire – not just official leaders – role-modelling the improvement framework. A ripple effect is created across a school that is more potent in its capacity to spread new teaching methods than any amount of policy dictates from a central office.

This model is extended across a system in various ways. For example, in Singapore and Shanghai, a select cohort of master teachers develops professional learning across the system. They are the system leaders for professional learning in their subject area.

Every other profession has a level of master practitioner. It is fundamental that high-performing school systems recognize specialist expertise among their teachers. These leaders are champions of the profession and of proven teaching approaches. They set objectives, develop programs and train experienced teachers who hold key roles in developing other teachers in schools.

Importantly, these system leaders are the pedagogical leaders in their subject area. For example, the principal master teacher in English language in Singapore is the pre-eminent English language teacher in the system. She sets the standard for pedagogical expertise and leads the network of English language teachers, designing the professional learning that all English language teachers receive.

Evaluation and accountability that improves professional learning

Too often, policy reform debates are compartmentalized, falling either under the umbrella of school and teacher development or under school and teacher accountability. This is a false dichotomy; it reflects an outdated interpretation of both development and accountability.
In these high-performing systems, evaluation and accountability are integral to the success of professional learning in schools. But success requires each system to embed a broader interpretation of evaluation and accountability that includes not only student performance, but also the quality of instruction and professional learning. In each system, the professional learning that follows the three-stage improvement framework is recognized and rewarded. Equally, ineffective professional learning practices are discouraged.

A broader focus on accountability does not mean that repercussions are reduced. For example, teachers in Shanghai will not be promoted unless they can demonstrate that they are collaborative. Similarly, mentors will not be promoted unless the teachers they mentor improve. Such direct repercussions continually reinforce the value the system places on the three-stage improvement framework. It is not an optional extra but an integral part of the system.

As teachers and school leaders move up their distinct career tracks in Singapore, the weighting placed on how they develop other teachers’ skills in their performance review increases. In Shanghai, 360-degree performance management places a strong emphasis on collaboration and professional learning. In addition, school accountability for professional learning is closely linked to the degree of autonomy the school can exercise. If professional learning programs in Shanghai schools are considered to be of low quality – if they are not integrated into everyday teaching and learning – then the district will take over the school’s decision-making responsibilities.

In each of these high-performing systems, evaluations require data on the quality of professional learning. Focus groups, surveys, and interviews of school leaders, teachers, parents and students provide a wealth of qualitative data that complements traditional student performance and input data. Accompanying the data is the professional judgment of people at different levels of the system. People are trusted to evaluate the quality of professional learning and make decisions accordingly. They are then held accountable for those decisions. For example, district leaders and officials are evaluated and held accountable for professional learning in their schools. They have the autonomy to make professional judgments on quality professional learning, but are always held accountable for these decisions.

In this way, professional learning becomes part of the accountability framework of an entire school system. Teachers are accountable for identifying and meeting their professional learning needs, schools are accountable for the quality of teaching and making time for professional learning, and systems are accountable for providing advice on the quality of professional learning and setting objectives. But all are accountable for improving student learning. That is always the ultimate objective. A teacher or a school leader will therefore never be promoted if they are good at professional learning but ineffective at raising the performance of their students.

Creating time

A common problem preventing the development of effective professional learning in many systems is a lack of time. Teachers simply do not have sufficient time in the day for taking up effective professional learning. Much has been made of how this experience contrasts with high-performing systems, with Shanghai providing the clearest example of a system which commits a large amount of resources to teacher professional learning.

The average teacher in Shanghai teaches for only 10-12 hours per week. Considerable time is allocated to professional learning. But Shanghai is an outlier even amongst high-performing countries. For example, in British Columbia only 1-2 periods per week are allocated to formal professional learning. But much more informal professional learning is done throughout the school week as it is embedded in their daily work life.

Teachers in all high-performing systems appear to teach fewer hours than U.S. teachers but poor data make definitive conclusions difficult. Regardless, the key is to have more time for embedding effective professional learning practices in teacher’s daily work life. What marks many high-performing systems apart is the amount of time away from the classrooms when teachers can individually and collaboratively evaluate and improve the impact of their teaching on students.
This report provides strategic, policy and practical pathways to improve professional learning based on analysis of high-performing systems. The starting point for this analysis is the evidence base of what research says works best. The three-stage improvement framework is built on the evidence of what works to improve student learning in schools and of how adults learn best. How this is developed in these high-performing systems and embedded in schools is the focus of this report.

Four very different high-performing school systems are analyzed – British Columbia, Hong Kong, Shanghai, and Singapore – that have taken different approaches in building systems of professional learning.

The quality of professional learning is not governed by unique factors like history or culture. Across a wide range of professions, a common framework exists that uses continual self-assessment and external feedback to hone and change professional practice. For example, doctors analyze symptoms to diagnose a patient, work with other doctors and health professionals to formulate the best intervention, and continually update their skills to stay abreast of developments in their field. In this, they follow the same model of practice as teachers in British Columbia working together to improve literacy in their school. The teachers collectively analyze the evidence, diagnose the learning needs of the students, and evaluate the impact of their teaching on their students. As a result, their teaching improves and student learning increases significantly.

Accompanying this report is a wealth of examples, guidelines and tools that these systems use. They are freely available to those who want to improve professional learning in their schools. Chapter 2 details the best way to use and access these resources.
2 How to use this report

It is hoped that this report and accompanying materials can be a resource for educators and education reformers wanting to improve teacher professional learning in their schools.

The report is accompanied by extensive appendices and a large toolkit with resources that high-performing systems and schools have used to develop their professional learning. People are free to take from these whatever they find useful. The report has two halves:

1. Chapters 4 to 10 describe professional learning in high-performing systems, the three-stage framework and programs that operationalize them in schools. Much of the discussion focuses on implementation and the practical detail on these programs operate in schools.

2. Chapters 12 to 14 discuss the strategy and policies that make professional learning effective; that embed them in schools. This starts with a discussion of strategic reform of professional learning, and the key policy reforms such as developing professional learning leaders and evaluation and accountability for effective professional learning.

Each chapter has accompanying materials. This includes appendices that provide more information on, for example, the detail of specific professional learning programs. There are also links to a Toolkit that provides a range of professional learning tools, resources and forms from the systems discussed in this report. For example, sample classroom observation forms, mentor hiring and training guidelines, frameworks for setting up learning communities, and example job descriptions of teacher leaders of professional learning.

At the start of each chapter, a summary box of relevant resources guides readers through the main resources. But they are all available at [www.ncee.org/XXXXXXX].

Background reports on each system studied provide a brief overview of education and context. These are included in Appendices 2 to 5.

Developing this report

This report illustrates the experiences of four high-performing systems (British Columbia, Hong Kong, Shanghai and Singapore) in the development of their teacher professional learning.¹

But the global evidence base of what works to improve schools and professional learning was the starting point. How these systems use this evidence base to operationalize effective professional learning was then the focus of the project. In-depth interviews were conducted with experts, policy makers, school leaders, teachers, training providers and other relevant stakeholders (for full list of interviewees see Appendix 1). Ministry documentation was analyzed alongside program evaluations and independent reviews and a wealth of school-level documentation.

What works in these systems has worked in schools in other countries as the same evidence base exists across countries. This report provides pathways to turn the evidence base into effective practice that improves teaching and learning in schools.

¹ When the report describes elements of “high-performing systems”, it is referring to the four systems analyzed: British Columbia, Hong Kong, Singapore, and Shanghai.
3 High-performing systems

This report draws lessons from education systems in British Columbia, Hong Kong, Shanghai, and Singapore on how to improve teacher professional learning. These systems are all high-performing and each retains a significant focus on improving teacher professional learning to lift the level of student learning in its system.

Many countries make significant investments in teacher professional learning. In the U.S. $18 billion is spent annually on teacher development. But if this money is to have an impact, past practices must change. Teachers find the professional learning they undertake is of little use. A 2011 survey of highly-accomplished U.S. teachers found that 40 percent disagreed or strongly disagreed that professional development at their school helped them to improve.

Figure 1 shows the performance difference in the OECD Program for International Student Assessments (PISA) between the average 15-year old student in the U.S., European Union, UK, Australia and the four systems studied in this report. For example, the performance of the average 15-year old student in the U.S. is 22 months behind the average 15-year old Shanghai student in reading literacy. The gap is wider again for science and stretches beyond three years for mathematics.

Recent pedagogical reforms: providing context for professional learning

To provide context for the discussion of professional learning, major teaching reforms in these systems are briefly discussed. A common trend has been reforms that sought to increase critical thinking skills that deepen student learning. These reforms have resulted in considerable improvements in the levels of student learning. Examples from Hong Kong and Singapore are illustrated below.

Hong Kong

Hong Kong has undergone a major shift in teaching and learning since 2000 involving curriculum, assessment and pedagogical reform. In 2001, Hong Kong was ranked 17th in the world in primary school students’ reading literacy (Progress in International Reading Literacy Study – PIRLS). By 2006, they were ranked 2nd.

This improvement was driven by reforms in curriculum, assessment and pedagogy. Hong Kong’s strategy has been to shift student learning from monotonous exam-driven schooling to life-long

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2 Bill and Melinda Gates Foundation, 2014
3 TNTP, 2013, p. 12
4 In the 2011 PIRLS, Hong Kong rose to the number 1 ranking in the world and Singapore stayed at number 4. British Columbia, entering PIRLS for the first time, was ranked 7th in the world. I. V. S. Mullis, Martin, Foy, & Drucker, 2012
learning that engages students in different learning activities and develops a broad range of skills.

These changes included:

- Broad learning experiences, including project and inquiry-based learning and the use of interactive technology in the classroom to help students develop their critical thinking, problem solving and communication skills.

- Diversified learning and teaching materials rather than a focus on textbooks to deliver curriculum.

- Increased formative assessment in schools - teachers now use a range of different assessment mechanisms to assess skills that cannot be observed in pencil and paper tests.

- Integrated learning areas across the curriculum instead of compartmentalized subjects.

- Learning experiences in the broader community compared to learning confined to the classroom.

Singapore

Almost a decade ago, Singapore introduced the 2005 ‘Teach Less, Learn More’ initiative. The reform sought to move education’s focus from ‘quantity’ to ‘quality’. Quality includes ‘teaching better’ to engage learners with greater levels of classroom interaction, increased opportunities for expressing themselves, differentiated learning, and building character through innovative and effective teaching approaches.³

Teach Less, Learn More drove schools to better engage students, encourage them to think more critically, and become active learners. In the classroom, ‘Teach Less’ means less rote learning, repetitive tests and an overthrow of the one-size-fits-all approach to instruction.⁴

The shift in focus to holistic education and assessment is helping to build students’ confidence and desire to learn in academic and non-academic areas. Teachers are using written exams less and providing more comprehensive feedback to engage and motivate students. More recently, the Program for Active Learning aims to develop socio-emotional learning competencies through more music, arts, outdoor activities and sports for primary school students.

As part of the reform, Singapore reduced curriculum content significantly to give teachers more space to customize lessons and use a greater variety of teaching and assessment methods to adapt their lessons to the needs of their students.⁷ Project learning was also introduced to help students develop communication, collaboration and independent learning skills, as well as the chance to apply their knowledge across disciplines.⁸

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³ Ministry of Education, Singapore, 2010  
⁴ Ng, 2008, p. 7  
⁵ Ministry of Education, Singapore, 2010  
⁶ Ng, 2008 p. 7-8
## Integrating quality professional learning into the daily life of teachers

### Figure 2: Reforms to teaching: context for analyzing reforms to professional learning

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<th>Hong Kong</th>
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<td><strong>1980s</strong></td>
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<td>1999 Ministry releases BC Performance Standards to improve classroom assessment and pledges to improve school success for Aboriginal learners</td>
<td>Mid-1980s Focus on active and constructive learning</td>
<td>1999 Ministry releases BC Performance Standards to improve classroom assessment and pledges to improve school success for Aboriginal learners</td>
<td>2004 Focus on innovation and enterprise including developing creativity, initiative and self-reliance</td>
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<td>2000 Cross-district inquiry networks (NOII) founded and FSA (provincial exams) put in place</td>
<td>2001 Guidelines for Curriculum Reform in Basic Education - encouraging the move away from pure knowledge transmission towards fostering learning attitudes and values</td>
<td>2006 Western and Northern Canadian Protocol for Collaboration in Education (WNCP) encourage assessment for learning with report: Rethinking Classroom Assessment with Purpose in Mind</td>
<td>2005 Teach Less, Learn More: strategies for active and independent learning, improving pedagogy and reducing role learning and repetitive tests</td>
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<td>2011 New provincial education plan released, including curriculum reform</td>
<td>2002-2006 Primary school curriculum to improve student learning through pedagogy change</td>
<td>2011 New senior secondary curriculum including project-based learning, reformed exams to reinforce curriculum and pedagogy change</td>
<td>2009 Primary reform to balance knowledge acquisition and broader skills and value</td>
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<td>2010 Green Index for evaluation focused on whole child development including physical and mental health and reducing academic burden</td>
<td>2009 New senior secondary curriculum including project-based learning, reformed exams to reinforce curriculum and pedagogy change</td>
<td>2010 Redefined desired outcomes of education including critical and inventive thinking, civic literacy, information and communication skills</td>
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<td>2013 New provincial education plan released, including curriculum reform</td>
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### Sources:
4 An improvement framework for effective professional learning

An improvement framework of ‘assess, develop, evaluate’ is at the heart of effective professional learning in high-performing systems. It embodies the most effective methods for teacher learning in school education. When embedded in schools teachers are continually:

1. Assessing students’ learning to identify what they are ready to learn next

2. Developing the teaching practices that will provide for the next stage of student learning (and being clear what evidence supports this)

3. Evaluating the impact of new practices on student learning

The final step takes teachers back to the first in a continuous cycle of improving teaching and learning. Teachers learn from assessing the impact of their approach on student learning and using that knowledge to adjust their methods to better address students’ needs.

Collaboration and an open-door school culture is central to operationalizing the improvement framework. Together, teachers research and adopt new ways of working, observe each other in action, give feedback and evaluate the impact on student learning. Classroom doors are open – symbolizing the open mindset that teaching and learning is for everyone to objectively review and improve.

The framework requires teachers to actively discuss and collaborate to evaluate and develop their teaching practice. Active, shared discussions force individuals to articulate why they are working in a certain way, and unpack their tacit assumptions on what works and why. This is critical in developing new approaches as existing knowledge usually needs to be engaged and challenged for effective learning to take place.

The process of working together to discuss issues in student progress and how it links to instruction helps individuals build an objective mindset. Whether it is through collaborating with peers, senior teachers or other experts; the meeting (and often clash) of ideas prompts fresh thinking. This benefits all teachers, even those who are experienced or senior.

Teachers are not only exposed to theory and new information or practices, they also trial and adopt new approaches in the classroom. Feedback and further collaboration follows, broadening learning activities (demonstration, observing others, trying out, getting feedback and coaching) to increase adult learning outcomes. Feedback produces further refinement and development over time.

Adult learning should only be considered effective when it changes behaviors. A mix of activities is required for teachers to change their practice. Figure 3 shows great increases in the amount of people that will change behavior when learning involves different activities; most people change their practice not from reading and seeing others work, but when these activities are combined with active professional collaborating and learning by doing. The improvement framework gives teachers the opportunity to learn by improving what they do in the classroom on a daily basis.

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9 The improvement framework of ‘assess, develop, evaluate’ is herein simply referred to as the ‘improvement framework’
10 Clement & Vandendenghe, 2000; Steinert et al., 2006
11 Timperley, Wilson, Barrar, & Fung, 2007
13 Joyce & Showers, 2002; Timperley et al., 2007.
14 Adults need to come back to new ideas continuously, often over months or years to fully develop new mindsets based on this cycle of learning: see Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Kolb, 1984; Wei, Darling-Hammond, & Adamson, 2010. This cycle of learning is consistent with Knowles’ five assumptions of adult learning theory: that adults are self-directed learners, they bring a wealth of prior experience to education, they are ready to learn, are problem-centered in their learning and are best motivated by internal factors.
Figure 3: Mix of learning activities for adult learning

Percentage of people who will change their behaviors

Source: Adapted from Chi, Bassok, Lewis, Reimann, & Glaser, 1989

Effective adult learning is active - where learners work toward learning goals and drive their own process of improvement. It is important learners build skills to know when they need more knowledge or skills to improve. The ‘assess, develop, evaluate’ framework enables teachers to learn actively within daily work.

Lastly, the improvement framework enable teachers to learn in a cyclical fashion, and try new approaches over-time. Intermittently engaging with the same idea, in a deep manner, helps in making gradual shifts. Seeing evidence of success in the classroom is a powerful motivator for making long-lasting changes in practice.

Box 1: Evidence on effective professional learning

The focus on ‘assess, develop, evaluate’ is not new. The elements of this framework have been identified in major studies as having a positive impact on teaching effectiveness and student learning. A more detailed overview of the evidence on effective professional learning is provided in Appendix 6. Research clearly tells us that when teachers use evidence about student progress to evaluate their own teaching it has large effects on student outcomes.

Effective professional learning involves teachers collecting, evaluating and acting on feedback to modify their teaching practices. Intensive observation and analysis, or ‘microteaching’, is most effective. In Hattie’s (2009) analysis the professional learning programs themselves had weak effects in comparison with practices. Mentoring is ranked 120th, and in-service professional learning is ranked 19th of influences on student achievement, whereas other practices such as formative evaluation (ranked 3rd) and feedback (ranked 10th) have a strong effect. The most effective activities help teachers to examine what they do in the classroom. It is the effective professional learning practices that matter.

An internationally renowned study by Timperley et al. (2007) found the greatest effects for professional learning occurred when it challenged teachers’ thinking and conceptions about student learning and engaged them sufficiently to develop their knowledge and skills in ways that improved student outcomes. This generally took place over an extended time period and involved external expertise. To have a real impact, teachers must collaborate in a way that uses evidence to question and challenge each other and their conceptions of learning and teaching.

For more information, see Appendix 6.

Source: Hattie, 2009; Timperley, Wilson, Barrar, & Fung, 2007


Microteaching involves novice teachers conducting mini-lessons to a small group of students, often in a laboratory setting, and then engaging in post-discussions about the lessons. They are usually videotaped for later analysis and allow an intense, 'under-the-microscope' view of their teaching. These experiences have a strong and lasting effect on teacher behavior.
Unleashing motivation for improvement

The benefits of active discussion and collaboration extend beyond cognitive benefits. Developing close relationships with colleagues builds trust as well as a sense of belonging and commitment to a shared goal. Working closely with peers and other respected individuals can create significant positive energy and motivation to improve.

Teachers are likely to be more motivated where professional learning impacts their direct work in the classroom. Most teachers want to master and objectively improve the outcomes of what they do. Tying professional learning to practical things such as how to interpret assessment results and teach lessons to better target students’ learning needs means that teachers can see their direct impact on the immediate needs of students. It taps into their motivation to make a difference to the outcomes of their students – the key reason why teachers are there in the first place.

‘We have found that the closer the assessment data are to the classroom and to the teacher, the more committed teachers are to considering changes in practice.’

– Linda Kaser and Judy Halbert, co-founders of the Networks of Inquiry and Innovation, British Columbia

The improvement framework is a significant change from current approaches. Not because elements of the framework have never been applied in schools. Many have. But because of the extent that they are embedded in daily practice and are integral to school improvement.

For example, a recent study of professional learning in the U.S. found that professional collaboration was seen by teachers as a separate activity rather than integral to improving student learning and a constant in teachers’ daily work life. It therefore provided limited benefits. This is supported by cross-country OECD data which shows that teachers are much more likely to engage in surface-level behaviors (like exchanging materials, ensuring common standards) rather than deeper forms of professional collaboration (such as teaching jointly, observing each other’s classes and providing feedback). On average more than four teachers in ten report never teaching jointly or never observing classes or providing feedback.

The improvement framework has the most impact when it is not an adjunct to daily work but embedded in regular practice. As one Shanghai principal puts it:

‘There is no line between professional learning and the work of a teacher in our school. Most training essentially focuses on what teachers do in the classroom, how to teach lessons more effectively, or how to deliver content in a better way.’

– Principal, Anshau Junior High School, Shanghai

Ensuring that professional learning is effective (and is embedded in daily work life) is a continuous learning culture within schools. This is developed not only by the structure of professional learning but the overall strategy and other policies that make it effective. Without mechanisms that support, motivate and create consequences for teacher improvement, professional learning is unlikely to bring about change on its own.

For example, what makes teachers actually embed the improvement framework in daily work? Are they expected to do so? Do leaders, role models and peers promote it? Do organizational strategies facilitate and support it? Is it integrated into accountability and evaluation arrangements?

A mix of policies at the school and system level address these issues and ensure an organizational environment that embeds effective professional learning in teachers’ daily work.

\[17\text{ Bolman & Deal, 2013; Hargreaves & Fullan, 2012; Day, 2007; Schieb & Karabenick, 2011; Leana, 2011}\]

\[18\text{ Bill and Melinda Gates Foundation, 2014}\]

\[19\text{ OECD, 2014}\]
5 Professional learning strategy

Initiatives for an effective professional learning strategy:

- Set a targeted strategic objective that professional learning focus on the *improvement framework*
- Shape programs to embed the *improvement framework* into the daily work of teachers
  - Make learning communities the core professional learning program
  - Shape mentoring programs, courses and workshops, and the use of external experts to strengthen learning communities and feed into the use of the *improvement framework* in schools
- Design other policies such as leadership development, evaluation and accountability and creating teacher time to continually develop and reinforce the *improvement framework*
A reform strategy needs to set clear objectives and show how chosen policies and programs will best deliver these objectives. High-performing systems focus on embedding the *improvement framework* of ‘assess, develop, evaluate’ in the daily work of teachers. This should be the strategic objective of reform. The objective is not to find the best course or workshop for teachers or to specify an increased number of hours of professional development. The strategy needs to show how policies and programs embed the *improvement framework* in schools.

A successful professional learning strategy is one that focuses on and delivers sustained improvements in teaching. This is not simple. It takes more than just good professional learning programs to achieve widespread change.

A change strategy must draw on what motivates teachers to improve, and be supported by evidence on what creates sustainable organizational and educational change.\(^{20}\)

Effective strategy has:

1. A clear focus on the *improvement framework* that also provides a rationale for change: none of us will make difficult transitions unless we believe the changes are worthwhile. For teachers and school leaders, the challenge rests on being able to show that professional learning is improving student learning.\(^{21}\)

2. Programs to deliver the *improvement framework*, with professional learning communities as a key platform for learning, along with mentoring, external expertise and specific workshops and courses.

3. Policy reforms that ensure the *improvement framework* becomes embedded in daily work life such as:
   - Leadership development in schools and the creation and development of new professional learning leaders in schools and other levels of the system\(^{22}\)
   - Reforms that broaden the focus of evaluation and accountability to include the *improvement framework*
   - Trade-offs that help create time for teacher learning within the regular work day.

![Figure 4: Professional learning strategy](image)

The target of the strategy is to develop and sustain the *improvement framework* of ‘assess, develop, evaluate’ as this is the driver of student learning. The framework must be the explicit focus so that professional learning programs are designed - and other policies embed - effective professional learning in schools. As shown in the above figure, an explicit focus on the *improvement framework* drives the design of, for example, learning communities. These are embedded in schools by leadership, evaluation and accountability policies. They are also enabled by resource policies that allocate time for professional learning in schools.

In contrast, some strategies focus on developing specific professional development programs. This creates the wrong focus in schools and across systems. People focus on establishing the program. The incentive is created for school leaders to have, for example, a mentoring program. Any evaluative data collected by an administrative or government body merely indicates whether or not the mentoring program exists. This is partly why OECD data shows that mentoring programs are now very common, but teachers report that the mentoring programs are not

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\(^{20}\) Matt Barnard & Stoll, 2010; Ambrose, 1987; Kotter & Schlesinger, 2008

\(^{21}\) B. Levin & Fullan, 2008; Ben Levin, Glaze, & Fullan, 2008

\(^{22}\) Sutton, 2010
Improving their teaching practices. The programs do not operate within an effective improvement framework.

**Strategic reforms in Singapore**

Singapore has a coherent focus on developing teachers in the *improvement framework* (illustrated in Figure 5 below). Teachers are expected to continuously evaluate what they do and lead curricular and pedagogy improvements on the ground. They set the framework for the development of learning communities that has been the main form of professional learning in Singapore schools.

Various actions have been taken at a system-level to help make learning communities effective. Targeted strategy ensures that all learning communities are developed within the *improvement framework* (but in Singapore is structured into four critical development questions).

Significant investments are made in teachers as professional learning leaders, not just school leaders.

New roles have been created for teachers to lead professional learning in their own schools, helping to align teacher needs and broader school objectives. In a similar fashion, a small cohort of expert teachers (Master teachers and Principal Master teachers) lead professional learning across the system. This group of teachers is ultimately responsible for researching, designing and leading professional learning in their subject area, and linking it to broader system objectives for education.

A rigorous system of teacher appraisal holds teachers accountable for collaborating and improving practice. Differentiated job descriptions make the best teachers responsible for developing others, and their promotion depends on being able to do it effectively.

Last but not least, there is a deliberate policy to ensure teachers have adequate time for their own development in everyday practice. Trade-offs are made in other areas to quarantine this time – an expensive policy. Extra funds are provided to schools so that teachers can collaborate during the working week.

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**Figure 5: Singapore’s approach to professional learning strategy**

<table>
<thead>
<tr>
<th>Setting directions: an improvement framework for professional learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Programs</strong></td>
</tr>
<tr>
<td>Learning communities</td>
</tr>
<tr>
<td><strong>Complementary policies</strong></td>
</tr>
<tr>
<td><strong>Developing leaders</strong></td>
</tr>
<tr>
<td>Teacher professional learning leaders in schools (school staff developers) help identify needs and create school-wide learning plan</td>
</tr>
<tr>
<td>System-level professional learning leaders (principal master and master teachers) lead in the research and design of professional learning in their subject area</td>
</tr>
<tr>
<td>School leaders work closely with teacher professional learning leaders, align their work to school planning, and help create conditions for collaborative learning</td>
</tr>
<tr>
<td><strong>Evaluation and accountability</strong></td>
</tr>
<tr>
<td>Teacher appraisal is a key mechanism for teacher growth. Teachers are evaluated on how they develop themselves and others in promotion</td>
</tr>
<tr>
<td>Career tracks have senior and lead teachers play large roles in developing less experienced teachers</td>
</tr>
<tr>
<td>School leaders implement school self-evaluation reviews once every 2 years, and are appraised on teacher development</td>
</tr>
<tr>
<td>Peer pressure in learning communities to continuously improve own practice</td>
</tr>
<tr>
<td>Feedback loops on effectiveness of external expertise</td>
</tr>
<tr>
<td><strong>Creating time</strong></td>
</tr>
<tr>
<td>Deliberate policy to give teachers extra time to evaluate and develop practice during the week</td>
</tr>
<tr>
<td>Generous funds to schools to reduce teaching hours</td>
</tr>
<tr>
<td>Extra time for collaboration during the week</td>
</tr>
</tbody>
</table>

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23 OECD, 2014
Setting directions: bottom-up or top-down?

Targeting the *improvement framework* may sound like a highly centralized strategy, but to characterize it as putting control only at the center is misleading. It ignores the nuance of the strategy.

A common policy debate is whether reform should be developed from the top-down or bottom-up. This distinction produces a false dichotomy. Further confusion stems from international comparisons that have regularly been misleading; bottom-up strategies in one country are considered top-down in other countries.

All of the high-performing systems emphasize the importance of bottom-up approaches. However, a key feature is that in each system, the central administration sets clear – and, on occasion, very targeted – objectives for professional learning.

Rather than pursue crude centralized versus decentralized comparisons, policy debate is better informed by analyzing where a government (or administration) is ‘tight’ or ‘loose’. For example, a system may be ‘tight’ over specific mandated regulations and ‘loose’ over teaching practices (e.g. teaching practices are developed and decided at the school-level).

In simple terms, this analysis shows that high-performing systems are ‘tighter’ on teacher professional learning than many other systems (and sometimes looser on student performance targets). They are more specific about what is effective professional learning in schools. They do not mandate what professional learning programs schools must undertake, but they set targeted parameters on the three-stage *improvement framework*.

For example, in British Columbia, there are strong expectations that professional learning should develop teachers’ abilities to assess student learning and collaboratively develop teaching practices.\(^{24}\) In Singapore, school leaders should set school objectives for teachers to develop their capacity to use assessments of students to be able to target the next stage in their learning. But these systems still empower schools to take charge of their professional learning.

Importantly, the framework empowers teachers and school leaders to take ownership of their teaching and professional learning. So a centrally driven strategy to focus on the *improvement framework* is balanced by the empowering nature of the ‘assess, develop, evaluate’ practices themselves.

One school will use the *improvement framework* and identify a need to improve instruction in numeracy. Another school will use it and decide to focus on literacy or higher-order problem solving. Thus, when we say that systems are ‘tight’ on professional learning, they are tight on the *improvement framework*. This will lead to different topics being covered across schools depending on the needs of the students and the development path of teachers. This is why the *improvement framework* – when properly combined with other policies that embed it in the daily work of schools - challenges rigid distinctions of centralized or decentralized professional learning strategies.

This approach provides schools the autonomy and flexibility to develop the professional learning that best suits their students’ needs, within centralized parameters that very clearly target the *improvement framework*.

A targeted strategy, particularly when sustained over multiple years, creates clear expectations of effective professional learning. This changes the relationship between strategy, collaboration and accountability.

For example, the Surrey School District in British Columbia has a clear strategic focus on the *improvement framework*. Importantly, Surrey has stuck with its strategic objective over the last five years.

School accountability in Surrey is administered with a ‘light touch’, but school principals know that the focus of professional learning in their school must be on the *improvement framework*, with a specific emphasis on formative assessment. School principals are evaluated every two years with a

\(^{24}\) There are of course variations across districts.
discussion about their school improvement plan and how it addresses their school’s needs.

The ‘tight’ professional learning strategic objectives create clear expectations for all school leaders, such that when school principals approach their evaluations, they know what to expect. The evaluation will be more difficult if they are not developing the specific effective professional learning practices inherent in the improvement framework. In this way, variation in professional learning across schools in the Surrey School District is minimized. Alignment is created between District and school-level strategy.

The benefits of strategic alignment across systems are well-established. However, many systems struggle with alignment; OECD data shows that school and teacher evaluation systems are regularly misaligned. Many systems try to achieve alignment by being ‘tight’ on outcome measures – e.g. through a strong accountability focus on student outcomes. In contrast, Surrey is ‘tight’ on the process to achieve outcomes – the improvement framework – and achieves alignment with only ‘light touch’ accountability on outcomes. Yet performance has increased.

A major reason for the success in Surrey is that being ‘tight’ on what is effective professional learning and strengthening collaboration, increases the rate of improvement in teaching and learning. To understand why this has occurred, it is important to understand how collaboration improves teaching and learning. Collaboration has many benefits but, put simply, when people collaborate they encourage and reinforce the practices within the improvement framework. When there is clarity on those practices, the pace of organizational change increases.

In contrast, when strategy is ‘loose’ on what is effective professional learning schools, collaboration encourages a broader range of practices. There is less clarity on what are and are not effective practices so teachers’ interactions and feedback encourages a broader range of practices (that can be both effective and ineffective). This can be more difficult for teachers as they find themselves pushed in multiple directions. So, even when collaboration is high, the rate of change may be slow if collaboration reinforces a disparate range of practices.

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25 See for example Barber & Mourshed, 2007; Fullan, 2006, 2010; Mourshed, Chijioke, & Barber, 2010
30 OECD, 2014
27 Steinert et al., 2006; Clement & Vanddenberghe, 2000; Steinert et al., 2006
6 Programs that deliver the improvement framework

The improvement framework is the key to professional learning improving teaching and learning on a sustained basis. Professional learning programs must be designed in a way that gets teachers intensively assessing student progress and using evidence to explore what works.

Program design matters. The devil is in the detail of program focus and what teachers do within it. It is not simply swapping lesson plans or discussing the content of what to teach next.

Four central programs are common in high-performing systems, but learning communities - where teachers co-construct knowledge - are the key platform for teacher growth in high-performing systems. Singapore intensified its focus on learning communities following a comprehensive review of the evidence. British Columbia has a growing movement of inquiry-based collaborative groups re-shaping how teachers approach practice across the province. Shanghai’s ‘lesson’ and ‘research’ groups have been long-standing drivers of system growth. Hong Kong has made shifts toward collaborative group work, an outstanding example for others contemplating change.

It is not surprising that learning communities are the key platform for teacher growth. When they operate well, they reflect how adults learn best. Peers support and challenge each other, tackling existing habits and ways of working. The groups are safe spaces where teachers can support each other, allowing them to take risks to improve by providing opportunities for feedback and observation, and opportunities to trial approaches over time. Teachers discuss issues specific to their own students and classrooms. They build strong working relationships and trust with one another.

Effective learning communities empower teachers to decide exactly how they work and collaborate together. However, this is not a free-for-all approach – it is within targeted directions to focus on the improvement framework.

Other programs – mentoring, external experts and courses – complement the work of learning communities and feed into the improvement framework in schools.

In systems taking the first steps to improve professional learning, external experts and mentors play a key role in building capabilities. For example, in Hong Kong, external experts helped guide and facilitate new collaborative groups, working alongside lesson groups over sustained periods of time. External coaches and courses can help teachers develop their student assessment skills, develop new pedagogies, or improve skills to research and evaluate. Courses and workshops can further target a specific skill gap, for example teaching students with special learning needs.

The following chapters paint a picture of how professional learning programs operate effectively in schools as part of the broader improvement framework:

- Learning communities (chapter 7)
- Mentoring and beginning teacher initiatives (chapter 8)
- External expertise (chapter 9)
- Courses workshops (chapter 10)

Importantly, aspects of how these programs have been developed are highlighted.
7 Professional learning programs: learning communities

For those wanting to improve learning communities

This chapter gives a snapshot of how learning communities operate and can be developed to improve the improvement framework in schools.

The following tools and resources may be useful for those wanting to make practical change:

- Sample criteria, guidelines and frameworks to establish learning communities*
- Sample planning templates and surveys about teacher needs used to plan learning* communities
- Examples of inquiry groups (including sample research questions)*
- Detailed information on learning communities in each system (in Appendices 7-10)

*softcopy documents will be available from NCEE website

Learning communities are the main professional learning program to operationalize the improvement framework in schools.

There is no single effective learning community model. Table 1 shows various designs of learning communities in Singapore, British Columbia and Shanghai. While they work in different ways, they achieve the same goal. They are not just about preparing the semester’s teaching plan, or swapping materials for next week’s lessons. Rather, these learning communities embed the improvement framework in schools.

Table 1: The improvement framework in learning communities in different systems

<table>
<thead>
<tr>
<th>British Columbia Learning Communities</th>
<th>Shanghai Research and Lesson Groups</th>
<th>Singapore Professional Learning Teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Scanning (evidence of student learning)</td>
<td>1. Set research question based on student learning</td>
<td>1. Collect and analyze data</td>
</tr>
<tr>
<td>2. Focusing (prioritizing)</td>
<td>2. Review research evidence</td>
<td>2. Discuss focus for improvement cycle</td>
</tr>
<tr>
<td>4. New professional learning</td>
<td>4. Test strategies in class; observe and discuss each other’s lessons</td>
<td>4. Implement new approaches and measure impact</td>
</tr>
<tr>
<td>5. Taking action</td>
<td>5. Analyze evidence, identify improvements, and publish results</td>
<td>5. Review, reflect and present on what worked</td>
</tr>
<tr>
<td>6. Checking (assessing impact)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Stage 1 - assess
Stage 2 - develop
Stage 3 - evaluate
7.1 Singapore learning communities

In Singapore, all schools now use a learning community approach. Learning communities have been promoted for a long time, but in recent years the efforts have intensified so that it is now a key vehicle for teacher development.

In 2009, the Ministry of Education officially introduced learning communities as a way for teachers to take greater ownership of their development. Schools have flexibility over how collaborative teams operate in schools. 'Professional learning teams'\textsuperscript{28} select a key issue for student learning in the school and then address 'Four Critical Questions':

- What is it we expect students to learn?
- How will we know when they have learned?
- How will we respond when they do not learn?
- How will we respond when they already know it?

Teams collect and analyze data to form an evidence base, propose new approaches and trial them to assess their impact. Teachers then present to others and scale up what worked. Teams explore specific topics for substantive periods of time, often up to a year (see Figure 6 for a schedule from Keming Primary School, Singapore).

Figure 6: Professional learning community approach at Keming Primary School, Singapore

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure6.png}
\caption{3 Big Ideas:}
- Ensuring students learn
- Building a culture of collaboration
- Focusing on student outcomes
\end{figure}

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline
\hline
Form teams & Reflect & Plan & Literature review and proposal & Implement & During process: & Group reflection & Review project & Presentation \\
Dialogue & Confirm focus & Data collection and analysis & & & What works? & What does not? & Do students respond? & \\
\hline
\end{tabular}
\end{table}

\textsuperscript{28} Singapore defines 'professional learning communities' as the entire teacher learning community across the school, and within this there are 'professional learning teams' which are subject, level or interest based,
Generally, there are four-to-eight teachers in a professional learning team. They are either subject-, interest- or level- focused, and are guided by senior and lead teachers, heads of department and school leaders.

Most teams meet each week as the Ministry has mandated that schools must set aside an hour or more for professional learning team work.

For case studies and further detail on how professional learning communities operate in Singapore, see Appendix 7.

‘Individual teachers introduced changes in their own classes, collected evidence from class discussions and student work on what the students understood and have done. Teachers … would observe the lessons and discuss what had worked well and what are the areas for refinement.’

-Vice-Principal, Keming Primary School, Singapore

A number of networks across schools exist around specific subject, role and interest (illustrated in Figure 7). Subject-based network learning communities are a key learning platform for experienced teachers of the same subject discipline to develop and enhance their subject matter, pedagogy and assessment knowledge. These networks are led by the master teacher, officers from the Academy of Singapore Teachers, senior and lead teachers from schools, curriculum and training officials from the government, and academics. They work together to develop subject-specific professional learning and ensure it is aligned to broader system objectives and reforms (e.g. curriculum reforms).

‘Role-based networked learning communities’ provide platforms for sharing best practices from teachers with similar roles (for example, lead teachers or master teachers). Other networks collaborate on professional interests, for example differentiated instruction.

Figure 7: Various networks encourage collaboration across schools, Singapore

Helping Singapore schools develop learning communities and networks

The Academy of Singapore Teachers was established in 2009 to signal the greater emphasis on learning communities.

A range of support is offered to help schools develop their learning communities. Induction workshops for key staff as well as consultancy support is available. Leaders of professional learning are trained to lead and champion the learning communities approach.

Schools are provided with a toolkit, which details several functions for school leaders including: developing and communicating a shared vision on collaborative learning; handling resistance; balancing creativity and autonomy within parameters and boundaries; role modelling commitment; providing training, resources, tools and templates; and mentoring. The Academy of Singapore Teachers also maintains a professional learning community intranet, promoting suitable templates and training videos that cover essential skills to run an effective professional learning team.

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29 In Singapore, networks across schools are referred to as Networked Learning Communities (NLCs) and sometimes Communities of Practice (CoPs).
30 Academics are from the National Institute of Education that provides all the initial training for all teachers in Singapore.
31 The ‘Academy of Singapore Teachers’ is referred to in this document to include the range of subject-specific academies (English Language Institute of Singapore, Physical Education and

Sports Teacher Academy and Singapore Teacher Academy of the Arts) as well as Language Centres (Malay Language Centre of Singapore, Singapore Centre for Chinese Language and Umar Pulavar Tamil Language Centre).
32 Hairon & Dimmock, 2012
33 Leadership development has also been integral to improving professional learning in Singapore. These reforms are discussed in Chapter 0.
For more information on how Singapore implements learning communities and supports schools, including training for teachers in develop research skills see Appendix 7. See the Toolkit for sample guidelines for learning communities.

7.2 Establishing collaborative lesson planning in Hong Kong

Many education systems require a large cultural shift for teachers to begin to collaboratively evaluate student learning and develop their teaching.

Hong Kong has gradually shifted practice by introducing collaborative lesson planning as part of broader curriculum reforms. The Education Bureau offered experts to schools to help use collaborative lesson planning as part of school-based curriculum development.

The process was slow and steady – experts began by working with teachers in lesson planning meetings. Eventually, once staff gained the trust of teachers, they introduced the idea of lesson observation (for a full guide on lesson observation, see Appendix 15).

For more details on the developmental process in collaborative lesson planning, see Appendix 10. For links to materials on collaborative lesson planning from the Hong Kong Education Bureau, see the Toolkit.

7.3 British Columbia - Spiral of Inquiry

The rise of collaborative learning communities in British Columbia has been slow but steady since 2000. The communities are now the main avenue for professional learning in many districts across the province.

Teachers work in inquiry-based teams throughout the year, generally comprising three to seven teachers from the same subject or grade level. Inquiry groups follow the Spiral of Inquiry model to collect evidence of student learning, pinpoint a specific improvement area, and research and implement a new teaching practice. During this process, teachers constantly collect data on student learning to gauge where instructional changes are working and where they are not. Teachers give each other feedback through lesson observation or co-teaching while implementing new strategies.

Most inquiry projects research one area for most or all of the school year, so that adequate time is allowed for deep learning that changes teaching practice on a sustained basis.

Topics for inquiry are formalized in annual school plans that set directions for collaborative inquiry groups. Once completed, teachers are expected to share the results of their inquiry work across the school and district.

An example inquiry question from Hillcrest Elementary School shows a focus on improving student performance in math: ‘To what extent will the use of a systemic intervention program in early numeracy and the embedding of [assessment for learning] practices improve achievement for students struggling in math?’

See more sample inquiry questions in Appendix 8.

Working through the inquiry process

The Spiral of Inquiry process includes three questions which inform an evidence-seeking mindset among educators: ‘what’s going on for our learners?’, ‘how do we know?’ and ‘why does this matter?’

The first two questions ensure the groups’ activities are connected to assessment of student learning and the third question ensures that the work is aligned to the original, focused goal of the inquiry. At the end of the process, team members consider the question ‘what is next?’ – to identify where their next inquiry might focus.

There is a strong focus on assessing student learning using classroom evidence. Principals or teacher leaders hold formal professional learning sessions introducing formative assessment for the teacher.

34 Education Bureau, 2014
35 Hillcrest Elementary School, 2013. For a full copy of Hillcrest Elementary School’s Learning Plan, see the Toolkit
36 Kaser & Halbert, 2014 p. 212
inquiry groups. School leaders ensure accountability and the transfer of knowledge across schools.37

Inquiry Stages

- **Scanning**: collect evidence about what is going on for learners. (*high-impact practice 1*)
- **Focusing**: from the evidence, decide on the highest priority. (*high-impact practice 1*)
- **Developing a hunch**: critically appraise how teaching is contributing to the issue. (*high-impact practice 2*)
- **New professional learning**: decide what the team needs to learn, and plan how to do it. (*high-impact practice 2*)
- **Taking action**: take multiple attempts to apply learning and try changes to practice. (*high-impact practice 3*)
- **Checking**: analyze evidence of student learning progress. (*high-impact practice 3*)

Figure 8: Spiral of Inquiry, British Columbia

Source: Network of Inquiry and Innovation, n.d.

The collaborative inquiry approach in British Columbia began with the Ministry of Education providing a small amount of funding to two key educators – Linda Kaser and Judy Halbert – to start voluntary, cross-district inquiry networks in 2000. Schools from nine districts came to the first meetings and, by 2014, around 44 districts (out of 60) had been active members.38 Teachers and school leader teams are given small incentives to join the networks through small grants. Much of the success of the inquiry approach is due to the clear structure provided by the Spiral of Inquiry method. More information about the history and operations of the cross-district inquiry networks is found in Appendix 8.

‘We have found that as much as the time that is made available, if there isn’t a framework (i.e. the Spiral of Inquiry) for collaboration, that time will be wasted.’

– Linda Kaser and Judy Halbert, co-founders of the Networks of Inquiry and Innovation, British Columbia39

The school teams that participated in the cross-district networks brought the same Spiral of Inquiry framework to within-school learning communities. Many districts also offer within-school teams small grants to develop learning communities emulating the model used in cross-district networks. Districts support learning communities by directing funds to hire external experts as consultants or train senior teachers to lead inquiry groups to move the work forward (see Chapter 9 on external expertise for more information).

Districts understand that the deep learning they want teachers to achieve in their learning communities takes time, so most teacher groups focus on a single targeted topic for most or all of the school year. Teachers are not provided with a large amount of release time for group meetings (approximately 45 minutes every few weeks), but schools are allowed great flexibility in scheduling so, for example, classes can be combined to give teachers more time (see Chapter 14 for more information).

Making these changes can be difficult in schools where collaboration is low. School leaders often had to shape the learning communities in different ways to encourage initial participation. For example, in British Columbia, schools implementing inquiry-

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37 Halbert & Kaser, 2013 p. 7
38 Halbert & Kaser, 2013 p. 8
39 Personal communication with Judy Halbert, December 8, 2014
Integrating quality professional learning into the daily life of teachers

Based learning communities often started with topics with which teachers were more comfortable, like social responsibility. It may have been tempting for system leaders to insist on more traditionally academic topics (e.g. how to lift numeracy). But once teachers were comfortable with the inquiry process, schools were able to focus on other key learning areas, like math or literacy.⁴⁰

**Guidance on what inquiry is (and is not)**

Halbert and Kaser released a handbook detailing the Spiral of Inquiry steps in recognition that teachers groups need more guidance. Some excerpts are highlighted below:

**Developing a hunch: what is leading to this situation and how are we contributing to it?**

The hunch stage gives teams an opportunity to share their perspectives on possible causes of the student learning issue. It is important that the teams focus on what is within their locus of control (e.g. not on blaming parents). This stage requires a lot of trust in teams because teachers will be looking critically at their practice and sharing their observations.

<table>
<thead>
<tr>
<th>What developing a hunch is:</th>
<th>What developing a hunch is not:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Getting deeply held beliefs out on the table about our own practices</td>
<td></td>
</tr>
<tr>
<td>- Our practices that we can do something about</td>
<td></td>
</tr>
<tr>
<td>- Checking our assumptions for accuracy before moving ahead.</td>
<td></td>
</tr>
<tr>
<td>- A general brainstorm of all possibilities</td>
<td></td>
</tr>
<tr>
<td>- Obsessed with everyone else and issues over which we have limited influence</td>
<td></td>
</tr>
<tr>
<td>- Venting about the past – or fuming about the present.</td>
<td></td>
</tr>
</tbody>
</table>

**Taking action: what will we do differently?**

In this stage, teachers will work together to apply what they have learned. Taking action involves multiple attempts at changing practice, and it is important that teams support each other with observation, feedback, co-teaching, discussion and other collaborative structures. It is recommended that teams keep momentum by setting a window of 2-4 weeks to take action, report back to the team, and then practice again. Teachers will need multiple opportunities to try new strategies before they are proficient, so the team is critical to provide support to encourage persistence.

<table>
<thead>
<tr>
<th>What taking action is:</th>
<th>What taking action is not:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Learning more deeply about new ways of doing things</td>
<td></td>
</tr>
<tr>
<td>- Informed by a deep understanding of why new practices are more effective than others</td>
<td></td>
</tr>
<tr>
<td>- About evaluating the impact on learners</td>
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<tr>
<td>- About acknowledging feelings of vulnerability and building conditions of trust</td>
<td></td>
</tr>
<tr>
<td>- Just about implementing some new strategies</td>
<td></td>
</tr>
<tr>
<td>- Trying out innovative ideas just because they look exciting</td>
<td></td>
</tr>
<tr>
<td>- Doing something different and failing to monitor the effects on learners</td>
<td></td>
</tr>
<tr>
<td>- Assuming everyone feels OK about the change</td>
<td></td>
</tr>
</tbody>
</table>

For more information on the Spiral of Inquiry, additional school examples, and the history of learning communities in British Columbia, see Appendix 8. For sample inquiry questions and tools schools use to plan inquiry, see the Toolkit.

⁴⁰ Interview with the principal, Annieville Elementary School, October 2014
8 Professional learning programs: mentoring and beginning teacher initiatives

For those wanting to improve mentoring and beginning teacher initiatives

This chapter gives a snapshot of the development of effective mentoring and programs for beginning teachers. It shows how different models of mentoring successfully get the improvement framework working in schools.

The following tools and resources may be useful for those wanting to make practical change:

- Sample guidelines for how to run mentor programs (e.g., how to hire and train mentors) and a sample mentoring agreement which includes mentor job descriptions*
- Sample materials for beginning teacher programs, including guidelines on how to run programs, program schedules, training manuals, and templates to document teacher learning*
- More information on how beginning teachers are trained in these systems (in Appendices 11 and 12)
- A detailed description on how mentoring programs can operate (in Appendix 11)

*softcopy documents will be available from NCEE website

Effective mentoring is much more than just administrative or emotional support. When done well, it enables teachers to evaluate how their own practice impacts the learning of their students. Effective mentors teach other teachers how to use the improvement framework. Mentors strengthen the skills teachers need to recognize the areas where they need to develop through regular classroom observation and feedback.

Mentoring is a significant driver of professional growth in Singapore and Shanghai. Senior teachers are expected to be mentors to others. As teachers gain more seniority there is a greater responsibility for mentoring less experienced teachers.

In Shanghai, every teacher has a mentor, not just beginning teachers. All teachers are expected to continuously develop and improve over the course of their careers, not just beginning teachers.

Table 2: Mentoring in Singapore and Shanghai

<table>
<thead>
<tr>
<th>Shanghai</th>
<th>Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Teachers have tiered mentoring responsibilities based on experience</td>
<td>- Mentoring is in teachers’ job descriptions with training and often a lower teaching workload</td>
</tr>
<tr>
<td>- Mentoring includes diagnosing development needs and weekly lesson observation and critique</td>
<td>- Mentoring includes observation and developing collaborative research skills</td>
</tr>
<tr>
<td>- Accomplished mentors work across districts, not just within schools</td>
<td>- Developing others is a key criteria in annual performance appraisal</td>
</tr>
</tbody>
</table>


Shanghai and Singapore both have a cascading model of teacher mentoring. An experienced and expert group of teachers (‘master teachers’) work across the system to develop teacher capacity in their subject field. Master teachers mentor the next level of senior teachers who, in turn, mentor and build the capacity of other teachers.41 Teacher expertise is grown across schools as all teachers, regardless of seniority, are constantly learning from expert teachers.

By way of example, Shanghai master teachers are in the top one percent of teachers in their subject fields. They mentor a cohort of ‘subject leaders’ who work across many schools to build teacher capacity, especially in practical research. In turn, subject leaders mentor advanced and senior teachers in schools to help build their capacity to mentor other teachers in their schools.

‘[Mentoring] requires every teacher to keep learning and exploring in teaching and research to reach higher innovative teaching methods.’
- Gezhi High School (Shanghai), 2011

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41 In Singapore this includes both senior and lead teachers.
Similarly, in Singapore a select cohort of principal master and master teachers are employed at the Academy of Singapore Teachers. They are responsible for developing professional learning in their subject area. They bring together senior and lead teachers and build their capabilities to drive professional learning in schools.\(^2\)

In Singapore, schools structure time for teacher mentors to work with their mentees; many mentors are given reduced teaching load so that they have time for this mentoring work. Mentors also have access to continual professional learning opportunities to enhance their mentoring knowledge and skills.\(^3\) Their contribution as mentors are considered during the annual performance appraisal.

For further details on mentoring for teachers and leaders in Singapore, see Appendix 11.

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\(^2\) Lead and senior teachers lead professional learning teams in schools and some facilitate networked learning communities across schools; as well as mentoring at school, cluster and national levels.

\(^3\) One example is the Instructional Mentoring Program that offers the mentors about ten days of blended learning (face-to-face workshops and online forums) in the first year and four days of advanced mentoring program in the second year.
Box 2: Subject specialization

Subject specialization is a valued aspect of teacher development. Shanghai and Singapore recognize the importance of subject-specific content and pedagogical knowledge. Subject-specific skills are developed and reinforced in various ways through initial teacher education, professional learning programs such as mentoring and learning communities, and career ladders that value these skills.

Principal master teachers and master teachers are leaders and developers of professional learning in their subject. Learning communities are often subject-specific. In Shanghai, this is done through research groups, in Singapore through subject-based networked learning communities, and in Hong Kong through collaborative lesson planning.

Mentors and teachers are usually matched according to subject area to develop subject-specific expertise. Beyond their mentor, a classroom teacher has access to significant subject-specific assistance and guidance. As seen in Figure 10, a teacher can approach their subject school head or research group leader in the school for help.

In this way, a young math teacher on her first day in elementary school can see a direct line of subject-specific support and expertise through the system so she can build her teaching skills. This helps align professional learning to teachers’ needs, and builds their expertise in a more targeted way. At some point, all teachers need help with aspects of teaching in their subject. When they are provided general (rather than subject-specific) professional learning, it is unlikely to meet their developmental needs.

Figure 10: Shanghai model of teacher development in subject-specific pedagogical knowledge
8.1 Shanghai – mentoring within schools

The mentoring relationship begins with a discussion on developmental needs. The mentor undertakes classroom observation to assess their mentee’s strengths and weaknesses. This diagnosis forms the basis of a three-year development plan.44

Mentees learn and develop through regular observation and feedback on their practice. Mentees watch many lessons led by their mentors, who model effective practices.

Mentor and mentee work closely together to develop strategies to improve lesson plans, to manage classrooms effectively, and to effectively research practical ways to improve student outcomes.

Mentors also provide guidance on collaborative group work and preparation for demonstration classes, which all teachers must give. Mentees write-up reflections, taking ownership of their own learning progression.

Mentees evaluate the effectiveness of their mentors through 360-degree feedback. Mentors will not be promoted in Shanghai unless they get good feedback from teachers they have mentored.

Figure 11: Mentoring at Gezhi High School, Shanghai

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observe mentor classes:</td>
<td>Once a week</td>
</tr>
<tr>
<td>Complete a teaching reflection:</td>
<td>At least once a week</td>
</tr>
<tr>
<td>Deliver demonstration class:</td>
<td>Once a term at school and district level</td>
</tr>
<tr>
<td>Lead research project:</td>
<td>At least one project at district level or above</td>
</tr>
<tr>
<td>Publish papers in academic journals</td>
<td>with relevant academic proofs: Two - in municipal academic journal</td>
</tr>
<tr>
<td>Professional development case study:</td>
<td>At least 4,000 words</td>
</tr>
<tr>
<td>Summary personal teaching features:</td>
<td>At least 4,000 words</td>
</tr>
<tr>
<td>Teaching / research awards:</td>
<td>At least one at district level or above</td>
</tr>
</tbody>
</table>

Mentee: Teacher more than 5 years experience
Mentor: District Subject Leader
Source: Jensen, Hunter, Sonnemann, & Burns, 2012

Shanghai hires, trains, and evaluates mentors - see the Toolkit.

8.2 Beginning teachers

Beginning teachers require intensive support in the transition to the workplace. They require intensive role modelling, mentoring and other forms of training to learn what good practice on the job involves.

In Singapore mentoring for beginning teachers is seen as critical. It forms a part of the continuum of teacher learning and growth, starting from pre-service and continuing throughout the teachers’ career. In Shanghai, there is a strong focus on teacher content knowledge in initial teacher education, so the first years as a beginning teacher involve intensive, on-the-job pedagogical training.

Beginning teachers in Shanghai

Beginning teachers in Shanghai complete an intensive, rigorous training program during their first year in order to become a fully certified teacher. Beginning teachers have two mentors: one for classroom management and one for subject-specific guidance.45 Mentors may be experienced teachers within the ‘home’ school or master teachers who work across the district.46

Beginning teachers undertake intensive school-based training not only in their own school, but also a high-performing school in their district (a new feature of the program since 2012):

- **At the home school**: mentees engage in regular lesson observation with their mentor at least once every two weeks. They work with mentors in developing teaching plans and assessment design. Mentor teachers observe and evaluate beginning teachers’ lessons at least three times per year. A large part of beginning teacher induction takes place through collaborative groups in the school. Beginning teachers are active participants in these groups and must lead discussions within the groups 1-2 times per semester with mentors and other teachers.

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44 A sample diagnosis form from Shanghai is available in the Toolkit.
45 Zhang et al., 2014, p. 155
46 Zhang, Xu, & Sun, 2014, p. 155
providing feedback. The groups help develop the research skills essential for the improvement framework.

- **At the high-performing school**: beginning teachers visit a high-performing school in their district up to three times per week where they are mentored by an experienced teacher. Teachers observe regular lessons as well as collaborative lessons and grade groups. The school provides training on how to conduct research and how to write a research paper.

In addition, district training consists of face-to-face seminars and workshops held one weekend per month, and network-based teaching that teachers conduct themselves. This training develops foundational teaching skills and how to use the improvement framework such as how to undertake research and lesson observation.

At the end of the year-long program, beginning teachers must pass an evaluation to become fully certified. The evaluation includes a national written test (including teachers’ law, pedagogy and psychology), an interview, and teaching a sample lesson.

**Figure 12: Beginning teacher training in Shanghai**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School-based training at ‘home school’</strong></td>
<td></td>
</tr>
<tr>
<td>* Training and support within own school</td>
<td></td>
</tr>
<tr>
<td>Mentoring</td>
<td></td>
</tr>
<tr>
<td>* Devise training plan</td>
<td>Once per year</td>
</tr>
<tr>
<td>* Review and modify lesson plans</td>
<td>4-8 per semester</td>
</tr>
<tr>
<td>* Observe each others’ lessons</td>
<td>Once every 2 weeks (minimum)</td>
</tr>
<tr>
<td>Lesson observation</td>
<td></td>
</tr>
<tr>
<td>* Observe others and write report</td>
<td>10 times per year</td>
</tr>
<tr>
<td>* Observe and comment on colleagues’ classes</td>
<td>3 times per year</td>
</tr>
<tr>
<td>* Be observed in official ‘teaching trials’ by home and base school mentor</td>
<td>3 times per year</td>
</tr>
<tr>
<td>Lesson groups</td>
<td></td>
</tr>
<tr>
<td>* Design and moderate one activity</td>
<td>Once per year</td>
</tr>
<tr>
<td>* Deliver demonstration lesson (under mentor guidance)</td>
<td>2-4 times per year</td>
</tr>
<tr>
<td>Personal reflection on professional experience as a probationary teacher</td>
<td>10 essays per year</td>
</tr>
<tr>
<td>Lesson planning – curriculum and assessment</td>
<td></td>
</tr>
<tr>
<td>* Analyze one unit of teaching materials and lesson plan preparation</td>
<td>Three times per year</td>
</tr>
<tr>
<td>* Design the homework of one unit and explain</td>
<td>Three times per year</td>
</tr>
<tr>
<td>* Design and quality test unit tests</td>
<td>Once per year</td>
</tr>
<tr>
<td>* Conduct quality analysis of mid-term and final exams</td>
<td>Twice per year</td>
</tr>
<tr>
<td><strong>New training component since 2012</strong></td>
<td>Up to 3 half days per week</td>
</tr>
<tr>
<td>* Beginning teachers attend a high-performing school</td>
<td></td>
</tr>
<tr>
<td>* Assigned a mentor</td>
<td></td>
</tr>
<tr>
<td>* Activities include shadowing a mentor, participating in research groups and lesson observation</td>
<td></td>
</tr>
<tr>
<td><strong>Training at a high-performing ‘base school’</strong></td>
<td></td>
</tr>
<tr>
<td>* Devise training plan</td>
<td></td>
</tr>
<tr>
<td>* Review and modify lesson plans</td>
<td></td>
</tr>
<tr>
<td>* Observe each others’ lessons</td>
<td></td>
</tr>
<tr>
<td><strong>District standardized training program</strong></td>
<td></td>
</tr>
<tr>
<td>* Workshops and seminars including lesson preparation, homework design, how to conduct lesson observation, curriculum design</td>
<td>Once per month</td>
</tr>
<tr>
<td>* Self-study</td>
<td></td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td></td>
</tr>
<tr>
<td>* Evaluation by home and base-school mentors</td>
<td>End-of year assessment</td>
</tr>
<tr>
<td>* National written test</td>
<td></td>
</tr>
<tr>
<td>* Interview</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Minhang District, Shanghai, n.d.; Youai Experimental Middle School, n.d.

47 Youai Experimental Middle School, n.d.
48 These can include a reading club, teaching forums and online tutoring: Minhang District, Shanghai, 2012
49 See Appendix 12 and the Toolkit for an example district annual training calendar.
For more details on the beginning teacher program, including details on the base school training and beginning teacher appraisal, see Appendix 12. To view the Shanghai beginning teacher training manual, training schedule, and other documents - see the Toolkit.
9 Professional learning programs: external expertise

For those wanting to improve external expertise

This chapter gives a snapshot of how external expertise can best be used to improve professional learning, particularly how external experts help get the improvement framework working in schools.

The following tools and resources may be useful for those wanting to make practical change:

- Examples of school-based curriculum development*
- Description of the range of support offered to schools in Hong Kong*
- A more detailed look at how external expertise is used in British Columbia and Hong Kong (in Appendix 13)

*softcopy documents will be available from NCEE website

All systems use external experts to facilitate teacher professional learning. High-performing systems are no different: they use external experts to offer in-school training, coaching and tutoring.

External facilitators play a key role in working with teachers to embed the improvement framework. Experts help guide, prompt and challenge teachers, helping to shift the culture towards self-evaluation and inquiry.

This expertise is critical in boosting teacher skills in student assessment, research, what to look for in lesson observation, and how to accurately evaluate the impact of teaching practices on student learning.

‘Subject leaders’ in Shanghai are external experts who work across many schools to help develop teachers’ research skills. They were introduced in 2004 as a result of wanting to strengthen the quality of school based research and needing to inject outside help to schools to build teacher skills in this area. Subject leaders work with groups of teachers to guide them through research projects and build their skills to design, execute and write-up practical research.50

Shanghai and Singapore deliberately develop and support an experienced and expert group of principal master teachers and master teachers to work across the system. These teachers provide expert support on specific pedagogy, observing and providing feedback, as well as strengthening teacher research skills).

Hong Kong has an impressive array of support services to help establish collaborative lesson planning and lesson observation, as well as deep subject-specific content needs. Significant funds are available for academics to work with teachers and schools to engage with the improvement framework. Figure 13 provides more information on the approaches across the four systems below.

For more information on the major external support programs in Hong Kong and information on how British Columbia uses external expertise, see Appendix 13. For Hong Kong documents describing the school-based support services and program tools, see the Toolkit.

50Source: Interviews with: Ming Hang District leader June 2014; Mr Ni Minjing, Director K-12 Education, Shanghai Municipal Education Commission, June 2014
Integrating quality professional learning into the daily life of teachers

Figure 13: Models of external expertise

<table>
<thead>
<tr>
<th>British Columbia</th>
<th>Hong Kong</th>
<th>Shanghai</th>
<th>Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Consultants at district levels work with schools. They are usually subject-specific.</td>
<td>• Suite of Education Bureau School-based Support Services (SBSS) provides teaching consultants for in-school support.</td>
<td>• Master teachers and subject leaders work across districts to mentor teachers, including:</td>
<td>• Master teachers provide specialist pedagogical expertise and coaching.</td>
</tr>
<tr>
<td>• Consultants target specific teaching needs (e.g. pedagogy or content) as well as build capacity in professional learning (e.g. how to do inquiry or formative assessment)</td>
<td>• University Support Partners scheme funds experts to work in schools to advise and develop research-based pedagogy.</td>
<td>• Frequent observation of teaching</td>
<td>• Academy of Singapore Teachers (AST) and other bodies provide professional learning support for schools and teachers:</td>
</tr>
<tr>
<td>• For example, the Burnaby district has ‘program consultants’, Surrey has ‘helping teachers’ and Campbell River has ‘instructional support teachers’</td>
<td>• Quality Education Fund provides funds to schools to contract in expert assistance for professional learning and pilot innovative practices.</td>
<td>• Targeting specific teaching needs (e.g. pedagogy) as well as building capacity in professional learning (e.g. how to do research)</td>
<td>• Directly helping schools</td>
</tr>
<tr>
<td>• Universities and institutes provide support to schools as needed</td>
<td>• Hong Kong Teachers’ Exchange - Chinese Mainland principals and master teachers work with Hong Kong teachers</td>
<td>• Giving demonstration lessons</td>
<td>• Providing consultancy to support</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Universities and institutes provide support to teachers in schools on general and specific development needs</td>
<td>• Training teachers in critical inquiry skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• National Institute of Education runs professional learning courses and degree programs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Outstanding-Educator-in-Residence (OEIR) program involves inviting outstanding overseas teachers to conduct master classes in Singapore</td>
</tr>
</tbody>
</table>

Box 3: How external experts can help the improvement framework - example of Chinese language pedagogy in Hong Kong

In 2001, Hong Kong ranked 17th out of 35 countries in the Program of International Reading Literacy (PIRLS) for 4th grade students. In just five years, Hong Kong improved to be ranked 2nd. This improvement was driven by changes in curriculum, assessment and pedagogy – including the curriculum ‘key task’ of reading to learn.

The Centre for Advancement of Chinese Language Education and Research at the University of Hong Kong worked with schools to develop Chinese Language reading pedagogy.

Research staff worked with teachers to implement the new pedagogy through an iterative process. Teachers initially assessed student learning, implemented the new pedagogy, assessed its impact and then made further pedagogy changes. Research staff and teachers developed school-based teaching materials and conducted collaborative lesson planning meetings, lesson observations and post conferencing meetings.

Some schools received two years’ support from the university team, which included access to a university teacher, curriculum development officers and seconded teachers. The team worked collaboratively with schools to address particular pedagogical issues.

Research on the teaching method demonstrated that children taught using this approach for 25 percent of class time significantly outperformed students taught only using traditional approaches.

10 Professional learning programs: courses and workshops

For those wanting to improve courses and workshops

This chapter gives a snapshot of how courses and workshops can improve the *improvement framework* working in schools.

The following tools and resources may be useful for those wanting to make practical change:

- List of research courses for teachers and teacher-led workshops*
- Overview of teacher leader and graduate study programs*
- Details on annual conferences and seminars*
- Information on courses and workshops to train teachers in an inquiry approach (see Appendix 14)

*softcopy documents will be available from NCEE website

Focusing on the *improvement framework* clearly puts the focus on school-based professional learning. But high-performing systems still use a substantial amount of external training. All systems struggle with how to make external professional learning effective.

Recent reforms to external courses and workshops have focused on three areas:

1. Building teachers skills to ‘assess, develop, evaluate’ through courses on student assessment and evaluating the impact of teaching. Each of the stages in the *improvement framework* requires certain skills, particularly in student assessment and evaluating the impact of teaching on student learning. These are not easy skills to develop and courses and workshops have been shown to improve these skills and therefore improve the effectiveness of the *improvement framework* in schools.

Singapore began a targeted program of training at least one teacher in every school to be able to research and evaluate the impact of teaching on students. The program requires teachers to work in the Ministry of Education for two days per week for a given period. The National Institute of Education then provides an eight-week training course (for three hours per week) combined with action research in schools. The teachers then lead research in their school, developing the research skills of their colleagues in learning communities (see Appendix 7 for more details).

2. Developing new pedagogies (identified by schools in stage 2 of the *improvement framework*).

3. Changing the structure of courses and workshops to better reflect the principles of adult learning.

![Figure 14: Linking courses and workshops to the improvement framework](image)

A key feature of professional learning programs is increasing active learning, but what does this mean in practice? Ideally courses and workshops should provide teachers the opportunities to link theory learned at workshops with practice in schools on an on-going basis. The best examples are where courses and workshops rely on work in schools and vice versa and teachers openly discuss what has and has not worked in their classrooms.

> ‘I remember training in Singapore [10-15 years ago] used to be very formal, where the trainer comes in and you listen. Training is now more hands on, more participative. It’s a shift from...’

Jensen et al., 2012
trainer-centered to participant-centered. As it’s more collaborative, I’m more invested, and I know I have to give my input otherwise the training may not be as effective.’

– School Principal, South View Primary School, Singapore

To increase the relevance of professional learning, the Academy of Singapore Teachers has designed and delivered courses run by teachers. Moreover, master teachers are increasingly involved in designing and delivering formal courses. Sessions are increasingly interactive – using workshop formats to provide teachers with opportunities to share their learnings with other teachers.

‘The master teacher does a presentation, then teachers try it out in the classrooms, and then they come back together to discuss how it went. This sort of training is like a cycle: you train, try it out, and reflect so that learning is continuous.’

– Principal, South View Primary, Singapore, August 2014

The problem in the past has been that courses and workshops don’t address teachers’ professional learning needs. Linking to the improvement framework directly overcomes this problem. The improvement framework illuminate teachers’ development needs and how they directly link to their students’ needs. This greatly increases the relevance and effectiveness of courses and workshops.

For examples of research courses for teachers, teacher-led workshops, and seminar content - see the Toolkit. See Appendix 14 for a description of teacher inquiry courses available in British Columbia.
11 Opening up the classroom door: lesson observation

Schools have an open door culture in high performing systems. Teachers need time to watch and learn from others to develop the deep knowledge and expertise required of a teaching professional.

Lesson observation helps break down the expectation that teaching is something simply done ‘in your own classroom’. Being observed by peers, superiors, or in ‘walkthroughs’ by school leaders helps build a culture of collaborative practice. A number of systems have overcome teachers’ reluctance to opening up their doors - showing others it can be done.

Lesson observation is used for a variety of purposes ranging from purely developmental (peer lesson observation and feedback) through to teacher appraisal. It is a specific element of structured programs such as in initial teacher education, induction and mentoring programs, professional learning communities or external coaching. Figure 15 illustrates the various ways observation is used, both formally and informally.

A key distinguishing feature of effective lesson observation is that it focuses on the students, not just the teachers. Teachers often learn how to effectively conduct lesson observation through mentoring and learning from senior colleagues in the school. Workshops and seminars and other professional support services also help build these skills.

Hong Kong provides an innovative example of a program that builds teachers capacity in lesson observation. Experts from the Hong Kong Institute of Education work closely with schools on a ‘learning study’ program, adapted from a program in Japan. It involves intensive observations of one particular lesson (repeatedly), and how to improve it.

### Figure 15: Lesson observation in high performing systems

<table>
<thead>
<tr>
<th>Lesson observation in programs</th>
<th>Description</th>
<th>System detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentoring</td>
<td>- Beginning teacher induction</td>
<td>- Shanghai – beginning teachers undertake at least 10 per year</td>
</tr>
<tr>
<td></td>
<td>- Experienced or master teachers mentor other teachers</td>
<td>- Singapore – beginning teachers have regular mentoring and observation with their mentors (duration varies - for example one school was 90 min of mentoring and observation per week)</td>
</tr>
<tr>
<td></td>
<td>- Mentors and mentees observe each others’ lessons</td>
<td>- Hong Kong – beginning teachers’ induction - at least 5 per year</td>
</tr>
<tr>
<td>Peer-lesson observation</td>
<td>- Informal peer-to-peer lesson observation for development</td>
<td>- Frequency across system varies, as does frequency between schools</td>
</tr>
<tr>
<td>Demonstration lessons</td>
<td>- Teachers give specific lessons for multiple teachers to observe – can occur both within own school and across districts</td>
<td>- Frequency across system varies, as does frequency between schools</td>
</tr>
<tr>
<td>Learning communities</td>
<td>- Research groups (SH)</td>
<td>- Frequency across system varies, as does frequency between schools</td>
</tr>
<tr>
<td></td>
<td>- Professional Learning Communities (SI)</td>
<td>- Frequency across system varies, as does frequency between schools</td>
</tr>
<tr>
<td></td>
<td>- Lesson Study (SI)</td>
<td>- Frequency across system varies, as does frequency between schools</td>
</tr>
<tr>
<td></td>
<td>- Collaborative lesson planning (HK)</td>
<td>- Frequency across system varies, as does frequency between schools</td>
</tr>
<tr>
<td></td>
<td>- Inquiry spiral (BC)</td>
<td>- Frequency across system varies, as does frequency between schools</td>
</tr>
<tr>
<td>Teacher appraisal</td>
<td>- Superiors observe teachers’ lessons as part of annual review or application for promotion</td>
<td>- Frequency across system varies, as does frequency between schools</td>
</tr>
<tr>
<td>School external reviews</td>
<td>- Education department reviewers observe teachers’ lessons. May include immediate feedback to teacher</td>
<td>- Frequency across system varies, as does frequency between schools</td>
</tr>
</tbody>
</table>

Sources: Academy of Singapore Teachers, 2014; Advisory Committee on Teacher Education and Qualifications, 2009; Education Bureau, 2011a; Jensen et al., 2012; Minhang District, Shanghai, n.d.

Further information on lesson observation is provided in Appendix 15. This includes how high performing systems conduct it, as well as the data, forms and training used to make sure it is effective.

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53 Hattie, 2009

54 For example, see Language Learning Support, Education Bureau, 2013
12 Developing leaders of professional learning

Initiatives for effective leadership of professional learning:

- Develop new roles for teachers to become professional leaders in schools so they can:
  - Develop individual and school professional learning plans that deliver on school objectives
  - Design and lead professional learning programs and develop mentors in their school
  - Develop new professional learning leaders across the system who are recognized as pedagogical leaders of the system and their subject areas. Master teachers (and principal master teachers) can:
    - Lead professional learning in their subject area, setting objectives, developing programs and training teachers who develop other teachers
    - Create a new focus on subject-specific development and expertise by leading subject networks and developing subject-specific professional learning
  - Prepare school leaders so their strategic planning focuses on embedding the improvement framework in schools

Resources to improve leadership of professional learning

This chapter gives a snapshot of how leadership of professional learning works in four systems: Shanghai, Singapore, Hong Kong and British Columbia. It shows how formal and informal leaders have helped to successfully embed the improvement framework in schools.

The following tools and resources may be useful for those wanting to make practical change:

- More details on the roles of leaders in these systems (in Appendix 16)
- Example job descriptions of teacher leader roles*
- Sample annual school plans*

*softcopy documents will be available from NCEE website
Integrating quality professional learning into the daily life of teachers

Three aspects of leadership development have been critical to making professional learning effective in high performing systems:

- professional learning leaders at the school
- system leaders of professional learning
- school principals developing school improvement plans around professional learning.

Teachers who assume roles of professional learning leaders in schools have a greater impact on teaching and learning. Teachers are more likely to change their practices when they see colleagues they admire – not just official leaders – championing desired improvements.

Professional learning leaders help create the broader school climate for learning that can rarely be driven by a single leader.

Professional learning leaders drive professional learning from within the teacher cohort. From helping to connect teacher needs to school strategic planning, to designing professional learning approaches, to sometimes just being the ‘go-to’ person on teacher development – these teachers are critical to embed the improvement framework in schools.

As shown in Table 3, job titles and roles for specific professional learning leaders vary across systems. They are school staff developers in Singapore, curriculum leaders and professional learning coordinators in Hong Kong, and coordinators of inquiry in the Delta School District in British Columbia.

<table>
<thead>
<tr>
<th>Level</th>
<th>Role</th>
<th>British Columbia Coordinators of Inquiry</th>
<th>Hong Kong Curriculum Leaders</th>
<th>Singapore School Staff Developers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior teachers</td>
<td>Deputy principal equivalent level</td>
<td>Senior / head of department</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help lead inquiry approach and collaborative working groups</td>
<td>Introduced as part of curriculum reforms</td>
<td>Introduced to help implement Growth Model 2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support teachers in identifying student learning issues and setting inquiry research questions</td>
<td>Help lead school-based curriculum planning and implementation</td>
<td>Help champion, plan and facilitate professional learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinate and organize teacher development</td>
<td>Support school head in assessment planning and coordination</td>
<td>Key role in strategic planning - leading learning needs analysis in school, balancing teacher needs and school priorities for teacher development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate lessons</td>
<td>Promote professional development culture</td>
<td>Guide teachers on effective practices</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

School staff developers (SSDs) are professional learning leaders in Singapore schools. Senior teachers are appointed to the role, where they champion, plan and help deliver professional learning within a school. They design and deliver professional learning initiatives, and lead induction and mentoring programs for new and novice teachers. They also provide support for senior teachers and lead teachers who mentor less experienced teachers. Sometimes, they simply source the best external expertise to target an individual teacher need.

School leaders plan and set school learning directions and objectives in school development plans. The SSDs then create a ‘Total Learning Plan’ to achieve school objectives. The plan sets strategic objectives for teacher learning, the approach to achieve them, and the specific professional learning programs, activities and time required to deliver them. The SSDs work with heads of department to map teacher development needs from individual-, departmental- and school-level perspectives (illustrated in Figure 16).

An individual learning plan is identified for every teacher. This is done through a ‘Work Review’ process that assesses teacher developmental needs. The SSDs and heads of department take into consideration each teacher’s strengths and areas for

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50 Senior teachers and lead teachers play a key role in implementing the total learning plan.
improvement. They take into account performance reviews from the Enhanced Performance Management System (discussed in Chapter 17), findings from lesson observation, reviews of student work books, records from course evaluations, mentoring dialogues, and teacher journals. They also consider new roles that teachers have been assigned, and their current and future career progression.

See the Toolkit for more details on Singapore’s school staff developer roles.

Figure 16: Aligning staff development to school improvement goals in Singapore schools

SSDs must complete a five-month induction program run by the Academy of Singapore Teachers. Over 13 sessions, the program introduces the processes, systems and tools that they use to plan and lead teacher learning in schools. These professional learning leaders learn how to set professional learning targets, evaluate professional learning, develop coaching and mentoring skills as well as strategic and administrative planning.

SSD networked learning communities provide peer support and a vehicle to share knowledge and resources. As there is only one SSD per school, these communities are highly valued by them as a mechanism for obtaining informal advice and sharing ideas. Work attachments in the Academy of Singapore Teachers (and other industries) help SSDs develop a broader understanding system and school alignment, useful for when they return to their roles in the school.

Table 4: Training and support for professional learning leaders across systems

System leaders of professional learning

An expert group of master teachers lead professional learning in both Singapore and Shanghai. They set objectives, develop programs and train experienced teachers who develop other teachers in schools.

Master teachers spend a lot of time in schools in order to research and understand teacher strengths and weaknesses, identify areas for development, and design professional learning curriculum.

Importantly, these system leaders are the pedagogical leaders in their subject area. For example, the principal master teacher in English language in Singapore is the pre-eminent English language teacher in the system. She sets the standard for pedagogical expertise and leads the network of English language teachers, designing the strategic plans, and individual learning needs in the Total Learning Plan for their school.

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56 Sessions will be reduced to 10 from 2015.
57 For further detail, see the Toolkit for a school staff developer induction program outline
58 Work attachments are also available in various industries and the AST. This helps SSDs link and align government policies, school
59 It is not only SSDs who undertake work attachments; senior and lead teachers are entitled to them as well.
Integrating quality professional learning into the daily life of teachers

Professional learning that all teachers receive. This helps align professional learning to teachers’ needs, and builds their expertise in a more targeted way. At some point, all teachers need help with aspects of teaching in their subject. When they are provided general (rather than subject-specific) professional learning, it is unlikely to meet their developmental needs.

In Shanghai, the system leaders work at district-level academies and have no teaching load. In Singapore, they work at the Academy of Singapore Teachers and other associated bodies. In British Columbia, government, and academics from the National Institute of Education lead teachers from schools, curriculum and training officials from the Master teacher. They also include officers from the AST, senior and lead teachers from schools, curriculum and training officials from the government, and academics from the National Institute of Education (that provides all the initial training for all teachers in Singapore).

Table 5: System Professional Learning Leaders

<table>
<thead>
<tr>
<th>Shanghai Master Teacher/Subject Researcher</th>
<th>Singapore Principal Master &amp; Master Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Oversee teacher development in subject area</td>
<td>• Develop teachers and lead professional development at the zonal and national level</td>
</tr>
<tr>
<td>• Identify teacher development needs across the system, through research and school visits</td>
<td>• Pedagogical experts – the leading practitioners of their subject discipline</td>
</tr>
<tr>
<td>• Set directions and priorities for teacher learning in subject area</td>
<td>• Share deep understanding of their subject disciplines, and drive innovation and improvement in pedagogy</td>
</tr>
<tr>
<td>• Design teacher professional learning curriculum, courses and modules</td>
<td>• Principal master teachers help develop master teachers; master teachers mentor lead teachers and senior teachers</td>
</tr>
<tr>
<td>• Mentor and build capacity of subject leaders and their ability to mentor others in schools</td>
<td>• Resource for all schools to drive pedagogical excellence through innovation and research</td>
</tr>
<tr>
<td></td>
<td>• Partner with schools to implement pedagogical initiatives and improve teaching practices</td>
</tr>
</tbody>
</table>

School leadership: strategic planning to build a culture of learning and improvement

Professional learning leaders in schools ensure that professional learning plans reflect school objectives. In turn school leaders’ strategic planning needs to reflect system-wide reforms to improve professional learning.

In British Columbia the strategic focus of the system has shifted to inquiry-based learning communities that are the core of professional learning. School plans are now increasingly developed around inquiry-based learning.

In making this change, school strategies focus on an inquiry question, for example, “Will the use of a collaborative problem solving approach in Number Sense and Operations improve achievement as measured by BC Numeracy Standards?”

Here, the goal is improving student achievement in math and the strategy is to use a collaborative problem-solving approach. School planning based on inquiry encourages schools to set specific goals and strategies to achieve them.

This approach to school planning has meant a decrease in the number of quantitative goals set by schools but an increased emphasis on how to achieve them. Professional learning is emphasized as it is viewed as the engine that drives improvements in student performance.

Beyond strategic planning, school leaders play an important role in creating the conditions for teacher learning. What is done formally and informally can have a large impact on teacher motivation to improve and change practice. A rich example is provided in Box 4.

See the Toolkit for additional example school plans and sample teacher leader job descriptions from British Columbia. See Appendix 16 for detail on teacher leadership roles in the Delta School District.

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60 Subject-based networked learning communities are led by the master teacher. They also include officers from the AST, senior and lead teachers from schools, curriculum and training officials from the government, and academics from the National Institute of Education (that provides all the initial training for all teachers in Singapore).

61 Meeting and documentation provided by the Academy of Singapore Teachers, August 2014

62 Inquiry approaches are not seen everywhere in school planning in British Columbia. Approximately 30 percent of schools have fully integrated the Spiral of Inquiry into planning and professional learning, but 83 percent of districts had some focus on inquiry at one or more schools in 2013-2014. There are broad requirements for schools to develop some sort of annual school plan, where goals connected to student achievement. The district will often provide a template or a set of guidelines for the school plans which can be quite informal. All schools are asked the school to provide specific, narrow goals for student achievement (which may or may not be attached to specific targets).

63 Interview with Surrey School District, October 2014
At Hillcrest Elementary School in B.C., teachers are enthusiastic about what they do in their inquiry working groups. They talk constantly about the topics they are exploring in the corridors, between classes and after school. They derive energy from evaluating what they do and getting better at it.

The school did not always have a positive culture. Not long ago there were many isolated, factional feelings among teachers. When the current principal started, she had to maneuver around these issues to get collaboration off the ground. First, she clearly communicated her vision for collaborative learning teams. She selected a topic she thought was most meaningful – formative assessment – and invited teachers to participate (but did not mandate it). Initially, she invited teachers to an overview of formative assessment during a lunch session. She placed books on formative assessment in teacher mailboxes. She began working with the teachers who showed initial interest.

The principal then connected professional learning directly to teacher needs. She found common problems or questions among teachers and used those as a starting point to talk about how formative assessment would help. She continuously role-modelled the assessment, development and evaluative practices of the improvement framework and was an active learner alongside her teachers.

The principal spent a significant amount of time in teacher classrooms, often co-teaching or taking over a class so teachers had time to meet in their learning communities. She offered teachers opportunities to share their formative assessment work in district workshops. Teacher inquiry groups are now a key focus in the school, with teachers choosing their own specific topics and driving their own learning forward. They share learnings at staff meetings to spread best-practice.
13 Evaluation and accountability: ensuring quality professional learning:

<table>
<thead>
<tr>
<th>Initiatives for evaluation and accountability policies that improve the effectiveness of professional learning:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shift the policy debate to bring together accountability and development policies rather than have them viewed as competing forces</td>
</tr>
<tr>
<td>Bring the <em>improvement framework</em> of ‘assess, develop, evaluate’ and measures of the quality of instruction into school and teacher evaluation and accountability alongside existing outcome measures</td>
</tr>
<tr>
<td>Improve career tracks for teachers so better teachers have more responsibility for developing other teachers</td>
</tr>
<tr>
<td>Evaluate teachers on how they develop themselves and others, promote those who are good at developing others, and hold them accountable for their role in professional learning</td>
</tr>
<tr>
<td>Student performance is still the ultimate measure. A teacher or school leader won’t get promoted if they are good at professional learning but not at improving their students’ learning. In fact, this shouldn’t happen as professional learning should only be considered effective if it improves student learning</td>
</tr>
<tr>
<td>Create consequences for teachers and school leaders who are not effective at developing others. For example:</td>
</tr>
<tr>
<td>Not promoting mentors if their mentees don’t improve</td>
</tr>
<tr>
<td>Reducing the autonomy of schools if their professional learning is poor</td>
</tr>
<tr>
<td>Broaden data systems to capture the quality of professional learning through qualitative and quantitative data collections</td>
</tr>
<tr>
<td>Broaden evaluation and accountability policies so that all actors (e.g. district and regional leaders) in the system are held responsible for the quality of professional learning</td>
</tr>
</tbody>
</table>

Resources to improve evaluation and accountability of professional learning

- Examples of teacher evaluation including appraisal forms, evaluation materials, and performance indicators for evaluations*
- Sample external school review and inspection materials*
- Sample school self-evaluations and parent, teacher, and student surveys*

*softcopy documents will be available from NCEE website (see file in drop-box folder for system approval)
Many of the reported problems with teacher professional learning around the world highlight a lack of evaluation and accountability. Teachers regularly report that their professional learning is of variable quality, not suited to their development needs and not linked to their classroom teaching. It begs the question of to what degree school, district and state leaders are held accountable for the effectiveness of teacher professional learning?

Addressing these endemic problems can be achieved, at least in part, through evaluation and accountability mechanisms that ensure people throughout the system are held responsible for the quality of professional learning. This ranges from quality-control measures for external courses and workshops to broader performance management programs. As an example, a mentor teacher in Shanghai is held accountable for how well they mentor a new teacher, the teaching practices of the new teacher, and the performance of the new teacher’s students. If these have not increased, then the mentor will not get promoted. Similarly, a teacher in Singapore is promoted based on how well they engage in their own professional learning and how well they develop other teachers. The evaluation and accountability of professional learning needs to ensure that effective professional learning is recognized and rewarded. This ensures that it is only those teachers who can effectively develop both themselves and others who rise to leadership positions in the system.

Ensuring that quality professional learning is supported through evaluation and accountability mechanisms starts, in these high-performing systems, with system leaders defining quality professional learning as the improvement framework of ‘assess, develop and evaluate’. From this, evaluation and accountability systems can measure how they are being implemented in both external (e.g. courses and workshops) and internal professional learning programs (e.g. learning communities and mentoring programs).

Wider evaluation and accountability mechanisms – such as school accountability and teacher and school leader performance management – can then be structured to ensure people take responsibility for the quality of professional learning. This will only happen when professional learning is a focus of evaluation and accountability.

While there are variations across the systems analyzed in this report, broad evaluation and accountability policies continuously develop and reinforce the improvement framework by focusing on:

1. Student performance
2. Quality of instruction
3. Quality of professional learning

These systems hold schools accountable for professional learning and ensure that structures are put in place to evaluate its effectiveness. While the ultimate measure of the effectiveness of professional learning is its impact on students, the first measure of effectiveness is how much it improves instruction in classrooms.

The focus on instruction provides greater evaluation of the effectiveness of professional learning. It ensures that instruction in a school is evaluated with areas of improvement identified. This also explicitly incorporates the assessment and evaluative aspects of the improvement framework into schools and systems.

These policies operate across different levels of the system so district and government officials are held accountable for the quality of professional learning across the system. The detail of these mechanisms are discussed below, but first two important and connected issues are addressed.

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64 OECD, 2014

65 A teacher in Singapore is promoted based on the teacher’s potential and performance - a whole-person assessment. Among many factors, engaging in professional development of self and of others will help hone their classroom practices and be more effective teachers and teacher leaders.

66 Generally, there is no precise weighting of the focus on results relative to instruction and professional learning. A school’s results still make up the largest component of their evaluation but there is no blanket rule that sets the percentage of each school’s evaluation determined by each of the three components.
False dichotomy between development and accountability

The arguments for the positive impact of accountability on teacher professional learning run counter to many of the debates about accountability policies, such as No Child Left Behind in the United States. In essence, one side of the debate focuses on the use of accountability incentives (school and student performance measures) to bring about changes in schools. Opponents on the other side of the debate claim that these policies distort effective education and instead argue for the focus to be on professional development. The debate – and it is particularly divisive – portrays these as alternative and mutually exclusive policy pathways.67

The evidence drawn from high-performing systems show that this is a false dichotomy. School education in Shanghai, Hong Kong and Singapore all have strong accountability policies that improve the quality of teacher professional learning and ensure that teaching is a collaborative profession.68

However, the focus of accountability in these systems is different. It is not weaker, nor does it shy away from difficult decisions. There are career consequences for teachers and school leaders who are not effective at improving the professional learning of other educators.

The quality of working relationships and professional learning processes are recognized (and therefore measured and included) as integral parts of individual teacher and school performance. But, it is equally recognized that professional learning and school improvement must focus on performance and outcome measures. Ultimately, the system and its policy-settings are all about student learning. Professional learning is seen as only being effective if it increases student learning. A teacher or a school leader will therefore never be recognized as good at professional learning if they are ineffective at raising the performance of their students.

Incorporating professional learning into evaluation and accountability policies has important implications for the sorts of data collected (discussed below), particularly for the reliance on professional judgment.

Accountability systems that rely exclusively on school performance measures normally rely on student test score data. Incorporating a focus on professional learning requires a reliance on perception data and professional judgment (e.g. inspectors and district officials making a judgment on the quality of professional learning in a school). This is a profound shift for many systems given the efforts made to develop school performance measures over the past few years. It requires faith and trust in the people making professional judgments. Two elements illustrate how this can operate effectively.

The first element is the extent and level of accountability throughout the system. For example, a state policymaker may feel concerned about the consequences of professional judgments made by a district or regional/cluster leader. This level of anxiety might be exacerbated if that district leader is not held accountable for those professional judgments. This engenders a low level of trust within the system.

In contrast, in Shanghai, evaluation and accountability regularly relies on the professional judgments of district leaders. The leaders are expected to know their schools, their strengths and weaknesses, and the quality of their professional learning. The leaders are therefore expected to exercise their professional judgment on a regular basis and have been promoted to that position because they are good at doing so. The district leader is held accountable for both the performance of their district and the quality of professional learning in the district. Among other things, their 360-degree performance evaluation stretches across different levels of the system. So, the system builds in a relationship of trust that supports accountability between levels of the system.

Second, professional judgments are not replacing student and school performance measures. They complement performance measures to emphasize both student learning outcomes and the key drivers of improved teaching and learning.

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67 Green, 2014

68 In British Columbia elements of their strategic reform creates other forms of accountability. This is discussed in Chapter 5.
Overall, the system sends a clear message to schools: student learning is what matters most, the *improvement framework* is the best way to improve student learning, and evaluation and accountability will help embed the framework in schools and ensure its quality.

**13.1 Evaluation and accountability of internal (within-school) professional learning**

Quality control of internal professional learning is vital given within-school learning communities are the core vehicle for operationalizing the *improvement framework* of assess, develop, and evaluate. School accountability policies and broader performance management arrangements (e.g. teacher appraisal and career structures) can reinforce the *improvement framework* and increase the rate of improvement of teaching and learning in schools.

**Performance management and career tracks**

Clearly structured career tracks, supported by comprehensive performance management schemes, improve professional learning across schools. Singapore and Shanghai are the clearest examples of how career tracks and performance management programs can embed the *improvement framework* in schools. They provide clear recognition, and therefore clear incentives, for teachers to improve the instruction and professional learning of other teachers. Overall, these systems have three objectives for professional learning:

1. Designating specific positions where teachers are leaders of professional learning and responsible for developing other teachers

2. Ensuring only effective professional learning leaders occupy these positions

3. Holding these leaders accountable for the professional learning they provide and giving them feedback on how to continually improve that professional learning.

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**The teaching pathway in Singapore**

Career tracks in Singapore provide the most obvious example of how the above three objectives work. Teachers and school leaders are promoted along three different career tracks (Teaching Track, Leadership Track or Senior Specialist Track - See Figure 17) based on their performance appraisals. In particular, Singapore’s ‘teaching track’ provides a career pathway for teachers who wish to become senior specialists in their teaching area. Teachers on this track can be promoted without being shifted into administrative role. This keeps the top-performing teachers doing what they do best – teaching – as well as giving them responsibility for developing others.

**Figure 17: Career tracks in Singapore**

More senior teachers are expected to play a major role in the growth of other teachers; this is a key plank of the system approach to professional learning in Singapore. Within schools, the senior teachers, heads of department, and subject level heads all play key roles in developing other teachers. They role model the *improvement framework*, lead collaborative groups, and other professional learning.

There is clear job differentiation between positions, as seen in Figure 18. The primary role of principal master teachers and master teachers is to develop other teachers through mentoring, model lessons, developing professional learning programs, and other ways of fostering good teaching practice. Lead and senior teachers divide their time to varying

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69 Lee & Tan, 2010

70 Lee & Tan, 2010
degrees between classroom teaching and developing less senior teachers.

### Box 5: Career tracks in Singapore

**Teaching track:** Teachers on the teaching track have a specific career trajectory that enjoys promotion without shifting them into an administrative role.

**Senior specialist track:** The senior specialist track is designed to develop a group of educators with expertise in specific areas of teaching. Educators who progress up this track are promoted to positions in the Ministry in one of three specialist clusters: curriculum and assessment, educational psychology and guidance, and educational research and measurement.  

**Leadership track:** Teachers who have demonstrated their ability to take on leadership responsibilities can assume roles such as subject/level head, head of department, vice principal or principal. This is also the track that allows for promotion into the Ministry. The pinnacle position is the Director-General of Education. School leaders often rotate between schools and the Ministry to prepare for promotion into these roles. This highlights the close relationship between schools and the Ministry. Senior Singapore teachers are coached by master teachers to develop their mentoring and development skills. External courses also target these skills. For example, a 10-week Teacher-Leaders Programme is offered to senior, lead, or master teachers to enhance instructional leadership and develop key skills.

In Shanghai, the number of master teachers is capped. Every three years the Shanghai Municipal Education Committee evaluates a new wave of master teachers that they will send to specific districts. About 50 percent will not get through. As it stands, there is approximately one master teacher for every 1000 teachers in Shanghai.

Master teachers are experts in their field and develop professional learning in their subject area. They are role-models for other teachers and assist struggling teachers. They must also publish articles on improving teaching practice.

Role clarity ensures that each educator is aware of who they need to be training, allowing expertise to be passed down to beginning teachers. This is reinforced through appraisal and career structures. Teachers are aware that they are also assessed on their ability to collaborate and develop others for promotion.

![Figure 18: Roles in developing others as teachers become more senior, Shanghai](image)

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73 Lim, 2010

74 Interview with Dr. Zhang Minxuan, June 2014

75 Ferreras & Olson, 2010
Performance management

Career tracks are most effective when supported by comprehensive performance management programs. In Singapore, the Enhanced Performance Management System (EPMS) means teachers and school leaders are usually appraised by the person directly supervising them. In this way, a teacher is usually appraised by a head of department, a vice principal by a principal, and a principal by a cluster superintendent.76

Professional learning is built into the system. A three-stage process ensures self-assessment, coaching and collaboration in schools even before any targeted professional learning is introduced. The three stages are:

1. Performance planning at the beginning of the school year requires teachers to evaluate their teaching and set goals for the year in teaching, instructional innovation and improvements, and professional learning.

2. Performance coaching from the supervisor throughout the year provides helps teachers achieve their goals for the year. There is a formal interview mid-year to assess progress towards these goals.

3. A performance evaluation at the end of the year requires supervisors to conduct an interview and compare planned goals against actual performance. Professional learning opportunities targeted at areas for improvement are identified.

In Shanghai, promotion is based on professional evaluations that assess student performance, quality of instruction (as determined via classroom observations), as well as a teacher’s effectiveness in developing other teachers.77

At all levels of Shanghai school education, the way that a teacher engages in professional learning matters. Their participation in collaborative lesson groups and the quality of their mentorship will be a major consideration in their appraisal and promotion.79 Different aspects of professional learning are included in teacher appraisal:

- Input measures of participation in professional learning, such as the number of hours undertaken. District officials inspect schools to check the hours and type of professional learning undertaken.
- Performance in professional learning, especially collaborative learning groups. This is evaluated through observations of professional learning, peer feedback and 360 reviews.
- Professional learning outputs such as published papers, demonstration lessons, awards, and seminar and workshops.
- Improvement in teaching evaluated by internal and external observations.

Middle level teachers are appraised annually at the school level with some district oversight. Teachers will also often conduct a self-evaluation as part of their teaching and research groups. Other group members then give feedback on that evaluation. Evaluations are then handed over to the head of department and then to the principal. Over time, this information goes into promotion discussions.79

More senior teachers must pass greater hurdles. Advanced teachers are nominated by schools and are then evaluated by the Advanced Teacher Title Committee. This committee comprises 5-7 experts who observe teachers in their classrooms.

A master teacher candidate must have published extensively and received various teaching awards.80 The Master Teacher Title Committee interviews candidates about their teaching practices and observes their classes. The committee also assesses the candidate’s previous appraisals as well as their professional learning track record.81

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76 The framework that the Enhanced Performance Management System uses to evaluate teachers is aligned to the key result areas and competencies specified by the Ministry of Education.
77 Strauss, 2014
78 Gezhi High School, Shanghai
79 Interview with Dr. Zhang Minxuan, June 2014
80 Ferreras & Olson, 2010
81 See the Shanghai Municipality Education Commission, master teacher evaluation form in the Toolkit
Integrating quality professional learning into the daily life of teachers

Box 6: Evaluation and accountability: increasing professionalism

The comprehensive nature of the evaluation and accountability systems recognizes that teaching is a complex profession. It is not focused on the amount of effort people put in to their job or targeting those who don’t work hard. Instead, accountability to continuously improve through professional learning reflects that teaching is a complex and difficult profession. This means that everyone needs quality professional learning to be able to be a more effective teacher. It also means that, even with quality professional learning, not everyone will be good enough to reach the highest levels of teaching. It is not a job that everyone can do well if they just try hard enough. Just as we don’t expect that everyone can be a successful neurosurgeon, these systems reflect a belief that not everyone can be a master teacher.

For sample teacher evaluation frameworks and templates see the Toolkit. See Appendix 17 for details on Singapore’s Enhanced Performance Management System.

School accountability

Effective school accountability develops and reinforces the improvement framework. In Shanghai, school accountability operates at the district level and is complemented by a system-wide inspectorate and evaluation from the central municipality (Shanghai Municipal Education Commission).

Schools are evaluated once every three years by a team of inspectors – mainly retired school principals and teachers. They observe and evaluate the school leadership, the quality of instruction, student engagement and feedback from parents. More frequent monitoring, evaluation and feedback is done at the district level.

In Singapore, school self-evaluation is the main form of school accountability and requires that schools assess both what is happening in their school (student test results) and why (instructional quality and professional learning). Self-evaluations center on the Singapore School Excellence Model (SEM) that guides the strategic planning of school. The SEM includes a strong focus on staff professional learning, well-being and development.

In Hong Kong, school self-evaluations are complemented by external school reviews that regularly set the improvement agenda for schools. Self-evaluations require schools to analyze student learning and the quality of instruction. External evaluations regularly encourage schools to increase collaborative professional learning practices.

Box 7: Peer Accountability

Considerable discussion in this report has focused on the benefits of collaboration in driving improvements in teaching and learning in schools. In simple terms, people interact and give each other feedback to encourage effective practices and discourage ineffective practices. This drives change in individuals and organizations as people respond to both internal incentives and peer pressure to use what their peers consider to be effective practices. This is what people normally mean when they refer to peer accountability. It is the accountability someone feels towards their colleagues.

82 This is often more informal as district leaders are required to have frequent interactions with their schools. Interaction is led by two Deputy Directors in each district; one responsible for instruction and the other for teachers’ professional learning. The later often is situated in the Teacher’s Academy in each district administration.

83 This has been a more recent reform that included the abolition of the school inspectorate. Self-evaluations are now supported by external support and less frequent external validation.

84 The External School Review process involves a team of Education Bureau staff – including former principals and teachers, and teachers on secondment from other schools – who spend four to five days in a school conducting a comprehensive review of its operations from strategic planning, to teaching and learning. The inspections focus on four domains which are learning and teaching, management and organization, student performance, and student support and school ethos.
In all of the high-performing systems, this process has driven change in schools. It has been greatly helped by a strategy that is ‘tight’ on effective practices (see Chapter 5). This provides greater clarity on what are and are not effective practices, strengthening the impact of collaboration (or peer accountability) within the improvement framework.

This report has used the term collaboration – given its broader meaning – instead of peer accountability. But many of the essential ingredients are the same. All of these systems have strong levels of peer accountability that drive improvements in teaching and learning and reinforce the improvement framework. In most of the systems, high peer accountability complements and reinforces strong evaluation and accountability policies. For example, teacher appraisal and the career structure in Shanghai increase peer accountability by ensuring that teachers evaluate and develop each other’s work.

Evaluation and accountability in British Columbia is not as interventionist (or ‘strong’) as the other high-performing systems but still fosters strong peer accountability. Strategy that is targeted on the improvement framework clearly sets out what are and are not effective practices. This magnifies the benefits of collaboration.

Teachers are driven to improve through ‘soft pressure’ from their peers and school leaders. For example, in most districts in British Columbia there is no requirement for teachers to participate in inquiry groups. But teachers are motivated to participate because they do not want to miss out on the chance to be part of a group creating exciting changes in the school. Teachers also hear consistent messages that communicate critical values shared by British Columbia teachers, creating a culture of high expectations and momentum to improve.

Networks across schools and professional learning communities within schools have established the norms and values that encourage both teachers to improve and school leaders to prioritize teacher professional learning. One collective value is ‘sharing’ in which inquiry groups must present on their progress and results from changing practice – an informal mechanism of accountability for accomplishing something of value during collaborative time. It is one of many examples of how these systems increase peer accountability to improve teaching and learning.

Source: Clement & Vanddenbergh, 2000; Joyce & Showers, 2002; Kolb, 1984; Steinert et al., 2006; Timperley et al., 2007.

Evaluation and accountability across the system

While school leaders are held accountable for school performance, instruction and professional learning in their schools, so are all government and district officials. This ensures responsibilities are shared and increases the perceptions of fairness of evaluation and accountability policies.

In Singapore and Shanghai, government officials are subject to the same framework of performance evaluations as teachers and school leaders. In Shanghai, district leaders undergo a 360-degree evaluation as a part of their appraisal. In addition, the municipality assesses the finances and school planning of the districts and their professional learning programs. This includes an assessment of the amount of professional learning and its impact on teaching (with classroom observations used to gauge the quality of instruction). Ultimately, district and ministerial leaders are given the autonomy to make professional judgments on quality professional learning but, importantly, they are always held accountable for these decisions.

In British Columbia, districts are required to submit an annual Achievement Contract to the Ministry, which must include specific targets around graduation rates, literacy and Aboriginal student achievement. The Aboriginal and literacy targets may be based on standardized test scores, but they can also be based on other measures that the district decides are important – these can include student grades, district-created assessments, performance standards rubrics, and grade-to-grade transition progress towards goals set out in the Achievement Contract. Student achievement includes intellectual, human and social development, and career development. These contracts reflect the unique characteristics, priorities and needs in each district. British Columbia Ministry of Education, n.d.-b

85 In Singapore, this applies to education officers working in the Ministry of Education (but not the Executive and Administrative Staff officers).
86 Achievement Contracts detail the specific goals individual boards of education have set to enhance student achievement. Reports on Student Achievement (also required annually) provide a reflection on
Superintendents of achievement are hired by the Ministry to monitor the Achievement Contract goals in each district. They meet with district superintendents at least once a year to discuss district efforts to support student achievement, assist with planning for the future, and provide professional expertise and support to districts.

### Under-performance

The consequences for poor professional learning are serious, as it is considered that any shortfall in this area will greatly affect school effectiveness. If a Shanghai school is not considered to be implementing effective professional learning practices, then two repercussions are possible:

1. **School autonomy is reduced.** Normally, about 50 percent of a teacher’s professional learning is determined by the school, but if evaluations show that the school's professional learning is not up to standard, this could be reduced to 10 percent. District-level officials and those charged with helping schools will take over professional learning until the school considerably improves.

2. **Teachers are not given credits for their professional learning.** Shanghai school teachers need to accrue professional learning credits (roughly equivalent to the hours of professional learning they have undertaken) to qualify for promotion. However, if their school-level professional learning is not considered up to standard, credits are not awarded. This increases the pressure on school leaders to provide quality professional learning.

To address these problems, schools are encouraged to work with other schools to improve their professional learning and share resources or seek further help from the district. On occasion, schools are included in the Shanghai Empowered Management Program that pairs high- and low-performing schools (see Box 8).

### 13.2 Collecting data

Any reforms to broaden evaluation and accountability requires changes to the data collected. This is not a trivial matter. The choice of data collected sends a clear signal to schools about what is important and allows systems to reinforce effective professional learning through evaluation and accountability. The practical questions of what data to collect (and how to collect it) are critical.

The discussion below summarizes evaluation and accountability data collection in these systems, focusing on the issue of professional learning data. It should be acknowledged that many systems across the United States and other countries have undergone extensive reforms of their evaluation and accountability systems: this report is not a call for them to be replaced. Including data on the quality of professional learning and instruction means that the examples below can add to existing data arrangements rather than supplant them.

Evaluation and accountability data is collected in these systems through:

- Student performance on standardized and school-based assessments
- Interviews, focus groups and surveys of school leaders, teachers, students, parents and other stakeholders
- Inspection and classroom observation data
- Reviews of school documentation
- Performance management data (e.g. teacher appraisal frameworks)
- Informal professional judgments

These systems collect this data in different ways. But, each level of the hierarchy is expected to have good knowledge of the schools for which they are responsible. In Singapore, data is collected from a variety of sources. For example, heads of department meet regularly with their teachers to discuss,

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88 British Columbia Ministry of Education, n.d.-b
appraise and provide feedback on instruction. Student progress is closely monitored and the interaction between instruction and student progress is evaluated through classroom observations, holistic assessments and student feedback. As parents and school community partners are also a crucial part of the teaching-learning equation, they are periodically asked to provide feedback as part of the on-going evaluation process.

In Shanghai, district officials are expected to know their schools well and are held accountable for the performance of their schools and any decisions they make concerning those schools. District officials collect and analyze data in addition to what is collected for specific school accountability programs. The precise data that is collected varies across districts. The Empowered Management Program in Shanghai provides an excellent example of how data is collected and used across the school system.

In Hong Kong, school planning processes are guided by a framework of performance indicators established by the Education Bureau. These performance indicators include: school performance targets (student achievement), instructional quality (teaching and learning processes), as well as leadership of staff development (see Figure 19).

Figure 19: Hong Kong key performance measures

1. Stakeholders' perception of school management
2. Stakeholders' perception of professional leadership
3. Stakeholders' perception of teachers' professional development
4. Number of active school days
5. Percentage of lesson time for key learning areas
6. Stakeholders' perception of curriculum and assessment
7. Stakeholders' perception of teaching
8. Stakeholders' perception of student learning
9. Stakeholders' perception of support for student development
10. Stakeholders' perception of school climate
11. Destination of graduates*
12. Stakeholders' perception of home-school cooperation
13. Students' attitudes to school
14. Pre-Secondary 1 Hong Kong Attainment Test #
15. Territory-wide system assessment #
16. Public examination results *
17. Academic value-add performance *
18. Percentage of students participating in territory-wide inter-school competitions
19. Percentage of students participating in uniform groups / community services
20. Students' attendance rate
21. Percentage of students within the acceptable weight range

Source: Education Bureau, 2011b p. 3

In developing these indicators, teachers, through surveys, provide their opinion on the professional development offered within the school and their satisfaction with the school's leadership. 89

An External School Review team evaluates previous school development plans, annual school plans and school reports. The team collects evidence through meetings with students, staff, the principal and parents. In addition, the team conducts classroom observations of approximately 70 percent of staff. 90

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89 Teacher feedback questions on surveys include: “The teacher professional development activities organized by the school are of great help to me in performing my duties.”

90 Education Bureau, 2011a p. 5
Box 8: Evaluative data collected in the Shanghai Empowered Management Program

The Empowered Management Program is a fundamental school equity program in Shanghai. It is presented here to illustrate the data collected to evaluate and hold actors accountable for school improvement, particularly professional learning.

The program contracts high-performing schools to turn around the performance of low-performing schools, usually within two years. Accountability relies on an evaluation at the mid-point and at the end of the contract. Evaluation highlights the use of multiple sources of data, with an emphasis on the professional learning of teachers.

Putting any accountability program into practice highlights the fundamental importance of decisions about what data is collected. For this program, data is collected on student performance from standardized and school-based assessments, but the majority of data is collected from evaluators. To do this, evaluators, often with district officials, spend time in schools analyzing documentation (e.g. school plans, professional learning strategies); observing instruction; and conducting surveys, interviews and focus groups with school leaders, teachers, parents and students. Survey data are used to build indicators of teacher, student and parent satisfaction.

There is a strong focus on the steps common to turning around low-performing schools: school leadership and strategic planning, school culture and organization, effective teaching, student learning, and relationships with the community. A constant in the first four elements is the assessment of the effectiveness of collaborative professional learning programs in the school.

**Evaluation of professional learning** in the school examines how strategic planning to improve teaching and learning is being implemented. Staff development plans are assessed, professional learning teams observed, and many interviews all contribute to the evaluation of the effectiveness of collaborative professional learning groups. Teacher interviews focus on their instruction, professional learning and research.

**Evaluation of instruction** includes examining teaching plans, curriculum schedules, textbooks, and other teaching materials. Classroom observations are critical and are supplemented by surveys and interviews of teachers and students to better assess feedback between teachers and students.

**Evaluation of student learning** incorporates student performance on standardized and school-based assessments and various awards received by the school. It also focuses on the nature of student learning; effective student learning habits and behaviors are assessed through interviews and classroom observations.

The Empowered Management Program also illustrates how strong accountability is distributed across the school system. For example, district officials must identify the low- and high-performing schools to participate in the program and will be held accountable for matching the right schools. District leaders must know and understand the strengths and weaknesses of their schools — not only student outcome measures but what is happening on a day-to-day basis in each school in the district. District leaders are evaluated and held accountable for their decisions and, in turn, are rewarded for effective practices that improve school performance.

Source: Jensen & Farmer, 2013
13.3 Evaluation and accountability of external professional learning courses and workshops

All systems struggle with quality control partly because quality is hard to measure and partly because the professional learning market is hard to regulate. Schools usually make the final decision on which professional learning expertise, courses and workshops are the best fit for their own teachers, yet schools often don’t have a lot of information on quality.

Feedback loops in Singapore and Hong Kong help the information flow between teachers, government and providers to facilitate quality improvements over time. Teachers rate the effectiveness of professional learning at three stages:

- **Pre-course** – what are the expected learning objectives and post-training performance targets?
- **Post-course (immediate)** – were the learning objectives and targets achieved? How can the learning be applied to your work?
- **Post-course (a few months later)** – how has the learning been applied to improve teachers’ practice? If not, why not?

At all three stages, the supervisor of the teacher – not just the teacher – provides feedback. For example, the supervisor provides comments on whether they observed changes in the teacher’s knowledge, skills or attitudes. In addition, in Singapore, master teachers and assistant directors of the AST conduct audits and observations of courses on behalf of the Ministry of Education.

<table>
<thead>
<tr>
<th>Box 9: Teacher survey 1-month follow-up, Singapore - sample questions</th>
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<tbody>
<tr>
<td>1. Have you made use of the techniques and knowledge from your mentoring coursework?</td>
</tr>
<tr>
<td>2. How frequently do you make use of the techniques?</td>
</tr>
<tr>
<td>3. Overall, how satisfied are you with these techniques?</td>
</tr>
<tr>
<td>4. Have you encountered any difficulties that have hindered your ability to use of the techniques and knowledge you have learned?</td>
</tr>
</tbody>
</table>

Information on course quality is fed back to course providers, who are expected to review and make improvements to the content, delivery and modes of instruction. If they do not make improvements in line with the feedback received, then they will not be hired again.

In Hong Kong, Education Bureau staff annually review the quality of external courses through teacher surveys, interviews and examinations of course content. Feedback is provided to contractors for improvement. For examples of quality control surveys and review forms, see the Toolkit.

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91 The Singapore Ministry of Education issues professional learning providers with a checklist based on the attributes of effective learning programs to help ensure that professional development is properly planned. They then collect feedback against the attributes of effective learning programs.

92 In Singapore, survey feedback is entered onto online course management system (TRAISI). This creates easy access by Ministry officials to oversight quality. Feedback data includes teacher service quality ratings and qualitative comments on the usefulness of programs.

93 Forms available in the Toolkit.

94 Interview with School-Based Support Services, Education Bureau, Hong Kong, June 2014.
Box 10: Broader reform: Other mechanisms to increase the quality of experts that teachers can use

Like all systems, even high-performing systems have struggled with how to use external experts in a way that is useful to teachers. Reforms have been enacted to address these issues and cover three broad areas:

1. Increasing the quality of experts that teachers can use
2. Making new experts available to teachers for professional learning. This includes using expertise already in the school system
3. Quality control measures

There is no single reform that will address all quality concerns. These are on-going issues across all systems.

Providing a clear focus for professional learning in a system sets a clear direction for external experts to shape their professional learning programs. As more experts focus in the same areas, the greater the level of professional learning offered to schools in key areas. This can then be reinforced by providing funds for experts to work with schools on these topics, and by providing direct support on these areas.

In Hong Kong, the Learning to Learn curriculum reform emphasized collaborative lesson planning and peer observation.\(^\text{95}\) External experts knew these priorities and which programs would receive funding. Hong Kong established a Quality Education Fund and University-School Support Programmes that provide funds to schools and universities to work together.\(^\text{96}\) Teams of experts work with teachers to assess student learning and develop subject-specific pedagogy in schools. The Hong Kong Education Bureau also provides professional learning directly to schools in priority areas. On-site support services help teachers and schools implement curriculum reforms including school-based curriculum development and language learning priorities. Teams of former principals, vice-principals and teachers help schools with key professional learning activities including collaborative lesson planning, peer lesson observation and lesson study and learning circles.

\(^{95}\) Curriculum Development Council, 2002, Chapter 10, p. 8

\(^{96}\) Established in 1998 with an endowment of HKD $5 billion (or approximately USD $645 million in 2014 dollars) to finance projects that promote quality education in Hong Kong. Lessons from projects are shared broadly through networks, workshops and conferences.
14 Creating time

Ways to create time for professional learning

Initiatives to create time for professional learning:

- Change the focus of existing time designated for professional learning programs to the improvement framework to help embed it in the rest of teachers’ work time
- Make trade-offs to reduce classroom teaching time
- Focus the creation of extra time on giving teachers more time to embed the improvement framework in their daily work

Resources to create time for professional learning

- Example application forms for grants to increase teacher time for learning communities*

*softcopy documents will be available from NCEE website (see file in drop-box folder for system approval)
A common problem preventing effective professional learning is a lack of time to take up opportunities. Teachers simply do not have sufficient time in the day to engage with the improvement framework of ‘assess, develop, and evaluate’. Teachers cannot continually be asked to do more such as taking on professional learning at lunch-time or after school.

Teachers in high-performing systems do not necessarily have much greater amounts of specified professional learning time compared with other systems. But – and it is a very important ‘but’ – they do have:

1. Fewer teaching hours than, for example, teachers in the United States.

2. More time for improving teaching and learning. That is, they have more time to collaboratively engage in the improvement framework outside of designated professional learning time.

The reason for this is simple. Professional learning is effective when it becomes a normal part of daily work life in schools. Having professional learning separated into discrete blocks therefore runs counter to what is trying to be achieved.

This changes the nature of reform debates on teacher time and professional learning. In the past, we have argued for more professional learning time but when it has been granted, it has regularly failed. Why? Professional learning that is separated from the rest of teachers’ work will be ineffective. And yet, this is what we have had for decades in schools; professional learning held in specific blocks and separated from the rest of teaching.

What is needed is more time for effective professional learning practices that are incorporated into daily school life. When teachers begin to continuously evaluate and develop their teaching, then overall school performance begins increasing at a rapid rate. Singapore has allocated additional money to schools to create more time for teachers. It is not ring-fenced around a specific activity that is separated from teaching and learning.

It should be made clear that this is not an argument for squeezing effective professional learning practices into existing schedules. It is arguing that increased time for professional learning, if it remains separated from teaching activities, reinforces a failed paradigm. Effective professional learning practices are the mechanism by which teaching and learning are improved. And teachers need time for this every day.

14.1 Making teacher time for learning

Creating more time for effective professional learning requires prioritization and strategic trade-offs. Making time will require savings in other areas, and this can be achieved by working smarter, streamlining, revising and cutting back on wasteful activities. This directly impacts how systems, schools, and teachers themselves operate.

Making more time for teacher learning cannot be done without re-considering the broader role of a teacher. Teachers undertake many activities that compete with professional learning time. For example: teaching classes, planning lessons, marking, doing paperwork, counselling students, communicating with parents, supervising sports, and taking detention. Teachers cannot do everything. If teaching and learning is to improve, then all areas of teachers’ working life need to be re-examined.

Government decisions can have a substantial impact on teacher time through the amount of funding for teacher positions (impacting workload), release time for professional learning, regulations on teaching hours and class sizes, laws on supervision, administrative support, and other regulating requirements. School policies also greatly influence how teachers spend their time.
Teaching hours

Shanghai provides the clearest example of the value of a large amount of resources devoted to professional learning. The average teacher in Shanghai teaches for only 10-12 hours per week, compared with both the OECD average of 18 hours and 30 hours per week in the U.S. This means that teachers in Shanghai have much more time each week for professional learning.

Table 6: Teaching hours per week

<table>
<thead>
<tr>
<th>Country</th>
<th>Hours teaching per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>27 hours</td>
</tr>
<tr>
<td>British Columbia</td>
<td>22-23 hours(a)</td>
</tr>
<tr>
<td>Finland</td>
<td>21 hours</td>
</tr>
<tr>
<td>U.K. - England</td>
<td>20 hours</td>
</tr>
<tr>
<td>Australia</td>
<td>19 hours</td>
</tr>
<tr>
<td>Average TALIS</td>
<td>19 hours</td>
</tr>
<tr>
<td>Poland</td>
<td>19 hours</td>
</tr>
<tr>
<td>Korea</td>
<td>19 hours</td>
</tr>
<tr>
<td>Singapore</td>
<td>17 hours</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>17 hours(b)</td>
</tr>
<tr>
<td>Shanghai</td>
<td>10-12 hours (c)</td>
</tr>
</tbody>
</table>

*Teaching hours* are defined hours teaching a class. It does not include time take in lesson preparation or marking time.  
Source: OECD, 2014, lower secondary  
(a) B.C. statutory requirement  
(b) Hong Kong Education Bureau (secondary)  
(c) Interview with SMEC 2011, Catching Up

However, Shanghai is an outlier amongst high-performing systems. What is important to note is that a lot can be done with relatively small amounts of time. For example, teaching time in British Columbia (approximately 23 hours) is well above the OECD average (18 hours), but British Columbia has significantly improved professional learning in their schools. In many schools in British Columbia, only 1-2 periods per week are allocated to formal professional learning. Yet, even with this small amount of extra time, more professional learning is done throughout the school week because:

- Professional learning time is embedded in daily work life
- Teachers have time throughout the school week to improve their teaching

Box 11: Doing a lot with a little: case-study from British Columbia

In B.C., schools achieve a lot in professional learning on modest amounts of teacher time. For example, the majority of teacher learning in inquiry-based groups is done within 1-2 periods per week.

To support this, districts provide small grants to schools, often less than CAD $3,000 per school. It should be noted that government financial support for professional learning was a strategic priority; grants were made during a period of significant cuts to other parts of the budget.

With only small amounts of money to support it, collaborative inquiry has taken off in schools in the Delta School District. It started with some teachers wanting time to collaborate. The district allowed schools the autonomy to change schedules to help promote teacher learning. Some schools took this up and made classes shorter to increase teacher collaboration time. They streamlined meetings, combined classes, and used alternative supervision. Teachers and leaders saw the value of learning, and made it happen.

Now all schools have built-in collaborative time. The district added 30 minutes of additional time to the school day twice per month (16 times per year), and time was given back to teachers during a day of relief during exam period.

See a sample grant application form for inquiry group funding in the Toolkit.

How important are time targets for professional learning?

While high-performing systems initially set targets for the amount of professional learning teachers complete, these targets now have little ongoing impact. But they played a role when implementing reform to improve professional learning.

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99 Networks of Inquiry and Innovation documentation, interviews with Surrey School District and West Vancouver School District representatives, September – October 2014
Integrating quality professional learning into the daily life of teachers

The introduction of the target was important in making the cultural shift in the profession and setting new norms, but now that these have been in place for some time, the requirements are not the drivers of professional learning behavior.

“Professional learning has come a long way in Singapore. At first, the introduction of the 100 hours for professional learning [every year] was thought to be a lot. Over time it became very easy. We plan at the beginning of each year how we will develop and use this time. We consider it a privilege – an entitlement – to have it.”

– Teacher, Pasir Ris Secondary School, Singapore

In Hong Kong, it is emphasized that the 150-hour target is only a soft target. As stated in official policy:

“Such an indicative target is never meant to be any kind of rigid requirement, and it is important for both teachers and school administrators to understand that teachers’ professionalism can only be enhanced through quality CPD, rather than mere numbers of CPD hours.”

– Advisory Committee on Teacher Education and Qualifications, 2006

The conditions that promote learning and long-term behavior changes are much more complex than just a commitment to hours spent. For example, while 70 percent of U.S. teachers reported having collaborative time, only 17 percent reported a great deal of cooperation among staff. Time is only one element of a broader reform strategy that focuses, relentlessly, on adopting and refining the daily practices that will make the greatest difference to student learning outcomes, and on making the whole system, including teachers, accountable for their ongoing progress.
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Appendix 7: Professional learning communities in Singapore
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Appendix 16: Leadership – job descriptions of professional learning leaders in schools
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