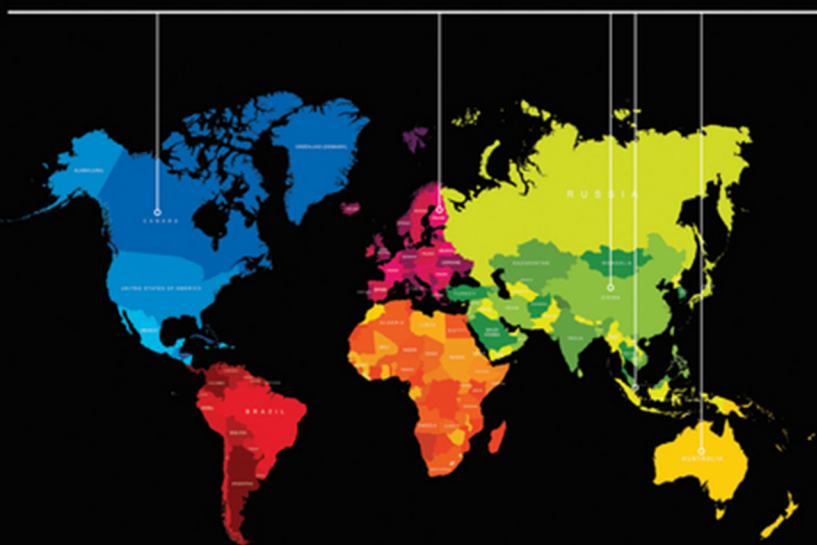


LINDA DARLING-HAMMOND

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EMPOWERED EDUCATORS

HOW HIGH-PERFORMING SYSTEMS SHAPE
TEACHING QUALITY AROUND THE WORLD



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FOREWORD

We can probably agree that great schools, without exception, are staffed by great teachers. It follows that if one wants an entire nation, state, or province with great schools, then one must provide all those schools with great teachers. Few, I suspect, would disagree with that. But then the question arises, how can that be done?

Roll the clock back to the United States in the years leading up to the American Civil War. We know now that this was the period in which the outlines of the current American school system were taking shape under the pioneering leadership of Catherine Beecher and Horace Mann. Those communities that had any schools hired young men to tutor the children who were not working in the fields. Their wives were at home, and an increasing number of their daughters were working long hours in the mills for next to nothing. Those students who got any education got mostly drill and practice in the rudiments of reading, writing and, as they said, “rithmetic.”

Beecher and Mann had another idea. Send the men into the mills. Take the young women who had been working in the mills and put them in the schools. Although Beecher and Mann saw this move as building a profession for women, and advocated the creation of normal schools for professional preparation, the feminization of teaching typically took another turn as it played out across the country.

Scientific managers and town guardians often favored the move for financial reasons. They argued that schools could pay the women a pittance, because they were either single and living with their parents, and so did not need much pay, or they were married and it was up to the husband to provide for the family. They would not need much skill because they did not need to know much more than their students, and their students did not need any more than the basics. As the system grew, these young women were fired when they became pregnant, so it was hardly worth while investing in their development as teachers. Of course, it would take real skill and ability to manage this system, especially in the big cities, where there were lots of schools and lots of people and

money to manage, but the managers would be men who would be paid a lot more than the teachers to tell the teachers what to do and how to do it. This was the model that was being used in America's burgeoning industrial enterprises with enormous success, and there was no reason why it should not work in the schools.

And it did. The United States used this model to set one new global benchmark after another in educational attainment. By the middle of the 20th century, it had the best educated workforce in the world. It had done it with a classic blue-collar model of work organization in its schools.

Educators from all over the world came to look at the American education system, learn its lessons, and take them home. Variations on the American model popped up everywhere.

But, as the 20th century drew to a close, the world was changing. Poor countries were learning how to use the model of schooling just described to deliver the same basic skills that schools in the more developed countries were delivering. But the graduates of those schools in these poor countries were willing to work for much less than their counterparts in the more developed countries. Jobs for people with only the basic skills in the more developed countries migrated to the countries where employers could get the same skills for much less. Hundreds of millions of people in the less developed countries were lifted out of poverty this way, but people in the more developed countries who had only the basic skills were in real trouble. Then the jobs of people who do mostly routine work began to be done by robots and other automated machinery. Between outsourcing and automation, the market for people with only the basic skills in the most developed countries was devastated.

That fact was a death knell for the blue collar model of school work organization. One country after another began to realize that cheap teachers responsible only for teaching the basic skills, working in schools in which they were expected to do what they were told to do by school administrators who were selected not for their ability as teachers but for their skills as managers, could no longer do the job that had to be done. A model in which teachers were expected to come from the lower ranks of high school graduates, to be educated in the lowest status higher education institutions, who were paid poorly, all of whom did the same job and had no career to look forward to, who were not rewarded at all for getting better at their work but simply for their time in service, while others, not them, were expected to figure out how to improve student performance—a model like that could never accomplish what now had to be done.

What now had to be done was to provide almost all students in the most developed nations with the knowledge, skills, attitudes, and values that only the elite students had been expected to develop before. All students would have to emerge from schools with the qualities that only the future leaders of society had been expected to have before if the nation was going to be able to maintain its standard of living. In an era like the middle of the 19th century in the United States, in which only a handful of people had any education beyond high school, it was obvious that only the high schools educating the future leaders of the whole society could afford to staff their schools with well-educated teachers. The blue-collar model of teaching was, in fact, the only model available to a country at that time that wanted to educate the masses.

But the blue-collar model of teacher work organization could not produce elite outcomes for the great mass of students. Only a professional model of teacher work organization could do that. So the search was on. What would such a model look like? Where would the future teachers come from? How would they be attracted to teaching? What sort of education would they need? How would they learn their craft? How would they be selected? Against what criteria? How would their work be organized? What sort of career could they be offered? What sort of incentives would they need to do the best work of which they were capable? How could their workplace be organized so that they would be constantly working to improve their skills, the curriculum, the schools, and student performance? What would schools look like if it was teachers, not managers or policy analysts or the research community, who was expected to lead the schools to higher performance? How would the answers to these questions change the kind of school leadership that would be needed? What, in other words, would a professional model of teaching look like when applied not just to an isolated elite school but to an entire country, province, or state?

That question—perhaps the single most important question facing educators today—is the question this book and the study on which it was based was designed to answer. Three years ago, my colleague, Betsy Brown Ruzzi, the director of NCEE's Center for International Education Benchmarking, and I asked Linda Darling-Hammond if she would be interested in leading a major international comparative study of teacher quality to look at how the leading countries were answering the kinds of questions just asked. Darling-Hammond, of course, is one of the world's leading education researchers and has had a lifelong interest in the teaching profession. She leaped at the chance. Such studies are usually done by a lead researcher with a gaggle of graduate students actually doing much

of the field work. Darling-Hammond did not do that. She assembled a team of leading researchers from all over the world to join her in this very large research program. The result is a stunning piece of work, the result of a true collaboration among an all-star cast of researchers. It is everything we hoped it might be and more.

Don't look here for the one country, state, or province to be copied. What you will find is a picture in which the jurisdictions described tried first this and then that. Some had opportunities that others did not have. Some worked on this while others worked on that. As they were doing this, they looked over each other's shoulders for inspiration, ideas, and tools. Gradually, themes emerged. If you want a model, you will have to assemble it from those themes and the mosaic of policies and practices you will find in this volume and the others in the series of books from this project. And then you will have to adapt what you have learned to your own goals, values, and context.

There is plenty of inspiration here. Some of the key changes these countries made were nothing if not dramatic. Some countries look at their teacher education systems in despair, thinking there is no way that they can make the changes they ought to make in the education of teachers at the scale that is needed, given the politics. But look at how Finland decided to abolish all of its teacher education institutions at once and created in their stead a much smaller number of institutions, all of them at their research universities and all of them with a similar curriculum intimately tied to that nation's aims for its schools. Or look at Shanghai, which created out of whole cloth a career ladder system in which teachers get more compensation, more authority, more autonomy, and more status as they go up the ladder, in the process transforming what it means to be a teacher from the blue-collar model to the professional model. Or consider Singapore and Australia, where carefully considered standards for teachers and school leaders have been developed to drive their systems forward in the same way that the development of professional standards have characterized the professionalization of medicine, the law, engineering, accounting, and many other professions.

But be careful. Darling-Hammond and her colleagues point out that it is not any one of these innovations and others like them that account for high teacher quality. It is the whole system and the way it fits together that is most important. They point out that it is not just all the parts and pieces of the teacher quality system that account for the differences they observe in student performance; it is also the way that these teacher quality systems fit together with the larger design of the education systems of which they are a part. The issue of equity is a case in point. It is not just

a matter of making sure that new teachers have had classes in which they are introduced to the essentials of teaching students from low-income and minority backgrounds or get some experience in doing that in their clinical work. Shanghai has designed its career ladder system so that it is virtually impossible to go up the ladder without having worked in a variety of schools serving low-income and minority students. In Singapore, one is very likely to find that the best teachers are the ones working in classrooms with the highest concentrations of low-income and minority students. Singaporean teachers are taught early diagnosis and intervention in order to make sure that vulnerable students do not fall behind. In Toronto, with one of the most diverse student populations in the world, equity considerations govern virtually every aspect of the continuing development of teachers. Australia is working with its teachers to make sure that the curriculum they develop provides rich opportunities for indigenous students to see themselves in the materials they use in the classroom.

What emerges from this composite picture is almost the antithesis of the world that Catherine Beecher and Horace Mann created more than a century ago. The leading jurisdictions are selecting their teachers from among the more capable of their high school graduates. They want to make sure that they are not only strong in academics, but that they can connect with young people and have a passion for teaching. They are upgrading the status of the higher education institutions that are responsible for preparing teachers, making sure that they have a deep, conceptually based understanding of the subjects they with teach and have really mastered the craft of teaching. The most advanced are creating real careers in teaching to match the kind of careers that are available in the high status professions. They are creating professional standards for teachers, paralleling the high standards set for professionals in the high status fields. They are reorganizing schools and changing the way they are managed so that teachers, far from simply doing what they are told to do in isolated classrooms, can instead work with one another in teams to design more and more effective experiences for their students. Teachers in these systems are increasingly seen as the engine for school improvement, not simply implementing the recommendations made by university researchers, but doing their own research, sharing it with their colleagues and advancing the field themselves, with the support of the research community. Teachers in these top performing countries are treated with respect not because these countries are mounting respect-for-teachers campaigns, but because they are treated like professionals, are expected to work

to professional standards, and are producing professional results in a professional work environment.

This landmark study documents that transformation in detail.

MARC TUCKER, PRESIDENT
NATIONAL CENTER ON EDUCATION AND THE ECONOMY

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2-1	Australian Institute of Teaching and School Leadership Chair Tony Mackay discusses key challenges Australia faced in making systemic educational change.	http://ncee.org/2016/12/interview-with-tony-mackay-part-1/
2-2	The Melbourne Declaration on the Educational Goals for Young Australians	http://ncee.org/2016/12/national-declaration-on-the-educational-goals-for-young-australians/
2-3	A report on Canada's approach to school funding	http://ncee.org/wp-content/uploads/2016/12/Alb-non-AV-9-Herman-2013-Canadas-Approach-to-School-Funding.pdf
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2-5	China National Plan for Medium- and Long-Term Education Reform and Development (2010-2020)	http://ncee.org/2016/12/china-education-plan-2010-2020/
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3-2	Melbourne Graduate School of Education Deputy Director of Teaching and Learning Larissa McLean Davies describes how teacher candidates are recruited and selected to enter the Master of Teaching program.	http://ncee.org/2016/12/video-interview-with-larissa-mclean-davies-part-3/
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3-8	Viikki Teacher Training School Teacher Sirkku Myllyntausta describes her role as a teacher and researcher	http://ncee.org/2016/12/audio-sirkku-myllyntausta/
3-9	NSW Department of Education and Communities' <i>Great Teaching, Inspired Learning</i> policy for building teaching quality	http://ncee.org/2016/12/great-teaching-inspired-learning/
3-10	Melbourne Graduate School of Education Dean Field Rickards describes the clinical teaching framework and academic supports in the Master of Teaching program.	http://ncee.org/2016/12/video-field-rickards/
3-11	Ontario policymakers, a teacher, and a university professor discuss policy changes, diversity, and action-oriented pedagogy in initial teacher education in the province	http://ncee.org/2017/01/audio-initial-teacher-education/

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3-13	Video of a day in the life of a Singaporean teacher	http://ncee.org/2016/12/video-day-in-the-life-of-a-singaporean-teacher/
3-14	Victorian Institute of Teaching Director of Special Projects Fran Cosgrove describes the cycle of teacher inquiry that supports teacher mentorship and registration.	http://ncee.org/2016/12/audio-fran-cosgrove-on-mentorship/
3-15	NSW Secretary of the Department of Education and Communities, Michele Bruniges, discusses NSW's policies and approach to building teacher quality.	http://ncee.org/2016/12/video-michele-bruniges-on-teacher-quality/
4-1	Austral Public School Assistant Principal Daniel McKay discusses how teacher professional learning is supported in his school.	http://ncee.org/2016/12/video-daniel-mckay/
4-2	Raffles Girls School Director of the Center for Pedagogical Research and Learning Mary George Cheriyan describes “professional learning space” and the “create, implement, review” cycle for educators.	http://ncee.org/2017/01/video-mary-george-cheriyan-on-professional-learning/
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4-4	Alberta Teachers' Association Framework for Professional Development in Alberta	http://ncee.org/2016/12/a-framework-for-professional-development-in-alberta/

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4-7	Helsinki assessment of teacher personal performance	http://ncee.org/2016/12/finland-teacher-evaluation-form/
4-8	NSW Teacher Performance and Development Framework	http://ncee.org/2016/12/nsw-performance-and-development-framework/
4-9	NSW Principals Estelle Southall and Annette Udall discuss the differentiation and personalization of teachers' professional learning in schools.	http://ncee.org/2016/12/video-estelle-southall-and-annette-udall-part-1/
4-10	Singapore Ministry of Education Teacher Growth Model fact sheet	http://ncee.org/2016/12/teacher-growth-model-tgm/
4-11	Kranji Secondary School Senior Teacher Rosmiliah Bte Kasmin describes how teacher evaluation supports professional growth in Singapore.	http://ncee.org/2016/12/video-rosmiliah-bte-kasmin/
4-12	Qilun Primary School student evaluation of teachers survey	http://ncee.org/2016/12/qilun-primary-students-evaluation-of-teachers-survey/
5-1	Description of the Singapore National Institute of Education teaching and learning e-portfolio	http://ncee.org/2016/12/teaching-and-learning-e-portfolio/
5-2	Australian Institute of Teaching and School Leadership Chair Tony Mackay describes the various planks of AITSL's platform for high-quality teaching and leadership, system-wide.	http://ncee.org/2016/12/video-tony-mackay-part-4/

Link number	Description	URL
5-3	Overview of the Ontario Teacher Learning and Leadership Program	http://ncee.org/2016/12/teacher-learning-and-leadership-program-overview/
5-4	Quick facts regarding Ontario's Leadership Strategy	http://ncee.org/2016/12/ontario-leadership-strategy-quick-facts/
5-5	The Australian Professional Standard for Principals	http://ncee.org/2016/12/australian-professional-standard-for-principals/
5-6	Bastow Institute of Educational Leadership Director Bruce Armstrong discusses government investment in developing high-quality teaching and school leadership across the system.	http://ncee.org/2016/12/video-bruce-armstrong-part-1/
5-7	University of Melbourne Director of Education Research John Hattie describes his efforts to help school leaders analyze the impact on students of teachers' effectiveness in meeting standards.	http://ncee.org/2016/12/audio-john-hattie/
6-1	University of Helsinki Director of Elementary Teacher Education Anu Laine describes the extra resources available for teachers of students from low socioeconomic backgrounds.	http://ncee.org/2016/12/audio-anu-laine-part-2/
6-2	Alberta Education guide to K–12 education funding in Alberta	http://ncee.org/2017/01/education-funding-in-alberta/
6-3	Ontario government guide to the grants for student needs in Ontario	http://ncee.org/2016/12/ontario-guide-to-funding-for-student-needs/
6-4	A review of funding for schools in Australia	http://ncee.org/2016/12/review-of-funding-for-schools-gonski/

Link number	Description	URL
6-5	University of Alberta Vice-Dean Randy Wimmer describes the community-based aboriginal teacher-education program he initiated, and the challenges of bringing large numbers of teacher candidates into diverse professional contexts.	http://ncee.org/2016/12/audio-randy-wimmer/
6-6	Ontario Ministry of Education Director of Student Success Rob Andrews describes the province's strategy for supporting students experiencing persistent achievement challenges.	http://ncee.org/2017/01/audio-rob-andrews-part-1/
7-1	Australian Institute of Teaching and School Leadership Chair Tony Mackay discusses improvement and innovation as a networked ecosystem that constructs new knowledge about teaching and learning.	http://ncee.org/2016/12/video-tony-mackay-part-3/
7-2	Training requirements for Shanghai teachers in the role of <i>banzhuren</i> .	http://ncee.org/2016/12/training-of-banzhuren/
p. 159	Video illustrations of professional practice under the Australian Professional Standards for Teachers	http://aitsl.edu.au/australian-professional-standards-for-teachers/illustrations-of-practice/find-by-career-stage
p. 184	Ontario Teachers' Federation profiles the Ontario Teacher Learning and Leadership Program	http://www.youtube.com/watch?v=3DCiHTSaZu8&feature=youtube

TEACHING POLICY AROUND THE WORLD

Three teachers huddle around a laptop (Link 1-1) in the school library at Kranji Secondary School in Singapore. Rosmiliah, a senior teacher, and her two colleagues are engaged in an intense discussion of geographic information systems (GIS) and how to incorporate them into their teaching of geography. The trio constitutes just one of many teacher groups working on year-long projects to create new and innovative learning resources.

Along with each of their colleagues, these teachers will share their research findings at an annual learning festival attended by academics, teacher educators, and other practitioners, with awards given for the best projects. Rosmiliah laughs as she explains that none of the teachers was initially familiar with GIS, but by working together, they had incorporated it into a field research project with students, who found the new lessons fun and engaging. She explains:

Being a teacher, if you just keep on doing the same things every time without knowing what others are doing, or different ways to do it, you may be a bit boring—students may not find your lessons engaging. . . Teaching is alive . . . so the teacher is always learning as well.

In addition to these professional learning community groups, all teachers at Kranji take part in the school-wide “Learn and Grow” professional development workshops held fortnightly, in which the senior teachers introduce and model specific pedagogical strategies in “Skillful Teacher” workshops. In their 15 hours per week of non-teaching time, teachers plan together and may engage in lesson study



or action research within their departments. Beginners receive regular mentoring from senior teachers like Rosmiliah. As teachers gain experience, they have opportunities to expand their skills and climb a career ladder that makes their expertise available to others. This includes teachers in a dozen other schools that learn together in a network, or cluster, and those who attend sessions facilitated by master teachers at the Singapore Teachers Academy.

This rich learning environment for teachers is not the work of a single innovative school or principal: Kranji is much like any other neighborhood school in Singapore. The opportunities for teachers to collaborate and engage in professional learning are embedded systematically in Singapore's education policy.

Although Singapore is well known internationally for its strong investment and thoughtful designs for education, it is not alone. A growing body of research has found that high-performing countries have in common a set of strategies for developing, supporting, and sustaining the ongoing learning and development of their teachers and school leaders (Barber & Mourshed, 2007; Lee, Lee, & Low, 2013; Tucker, 2011). These countries not only train individual educators well, but also they deliberately organize the sharing of expertise among teachers and administrators within and across schools so that the system as a whole becomes ever more effective. And they not only cultivate innovative practices but also they incorporate them into the system as a whole, rather than leaving them as exceptions at the margins.

This book describes how this seemingly magical work is done: how a number of high-performing education systems create a coherent set of policies designed to ensure quality teaching in all communities—and how the results of these policies are manifested in practice. Across three continents and five countries, we examined seven jurisdictions that have worked to develop comprehensive teaching policy systems: Singapore and Finland, the states of New South Wales and Victoria in Australia, the provinces of Alberta and Ontario in Canada, and the province of Shanghai in China.

Serving increasingly diverse student populations while seeking to meet more challenging learning standards geared to 21st-century expectations, each of these jurisdictions has focused intently on how to develop and support higher-quality teaching across all of its schools. This book describes how governments in these places have carefully developed, planned, and implemented what we call a *teaching and learning system* and the lessons that can be learned from these systems.

What Kinds of Policies Affect Teaching?

Creating such a system does not actually require magic. It requires purposeful policies in a number of areas that shape the teaching force and the work of teachers:

- *Recruitment*: identifying and selecting individuals with the right blend of academic abilities and personal attributes to become effective teachers
- *Teacher preparation*: providing candidates with deep content knowledge and understanding of pedagogy, together with the clinical learning that translates these into quality teaching
- *Induction and mentoring*: ensuring that early-career teachers have the opportunity to observe, plan with, and learn from experienced teachers as they enter the profession
- *Professional learning*: ensuring ongoing learning opportunities for teachers to continually develop and improve their practice and to share their expertise
- *Teacher feedback and appraisal*: creating systems for providing feedback to teachers about their practice and for furthering teachers' ongoing development as professionals
- *Career and leadership development*: providing pathways for teachers that support individual growth and the development of strong educational leaders

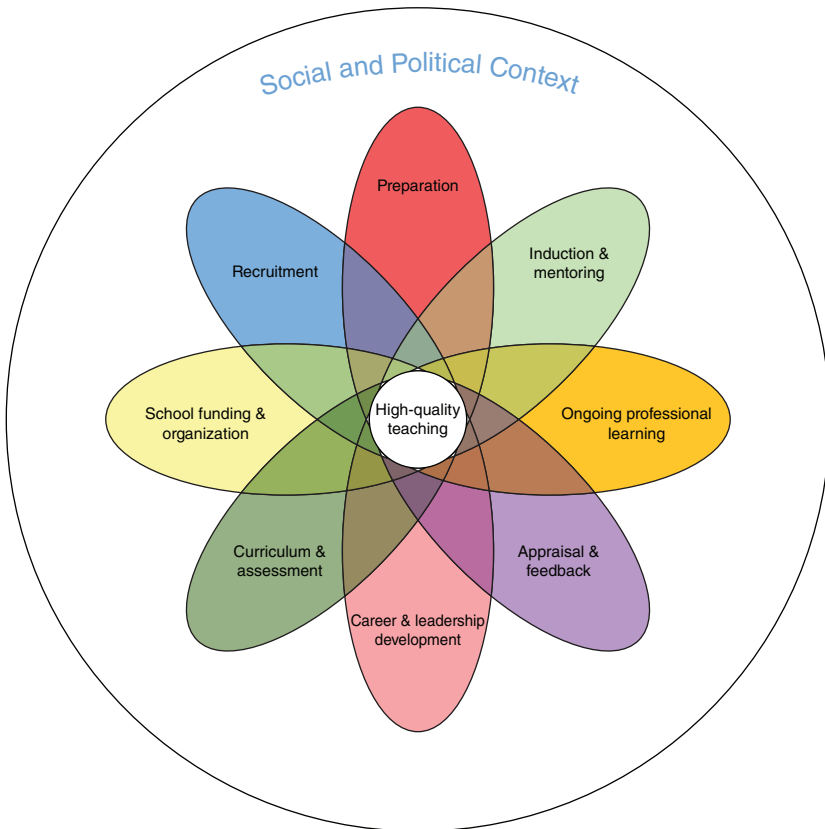
These policy areas are mutually supportive. Recruitment strategies that select capable individuals well suited to teaching may help initial teacher education programs produce high-quality teacher graduates, even as high-quality preparation serves as a magnet for talented candidates. Induction and mentoring practices that effectively aid teachers' transition to the classroom are known to support retention in the profession, helping teachers gain in experience and effectiveness (Darling-Hammond, 1998; Ingersoll & Strong, 2011). Opportunities for veteran teachers to offer mentoring can also enhance their career satisfaction and retention as well as their ongoing learning and growing expertise. Effective feedback can inform professional learning, highlighting areas for development that support quality teaching. As teaching becomes a public activity—with educators sharing and receiving feedback on their practice—the profession as a whole is strengthened.

Beyond these areas of teacher policy, it is important to understand how other educational policies inform and enable quality teaching and learning to take place.

- *School curriculum, assessments, and accountability* systems shape what teachers are expected to teach and how students are expected to show their learning—which can greatly influence instruction.
- *School funding strategies* shape the resources and supports teachers have available to do their work and the degree to which teachers themselves are equitably distributed.
- *School organization and scheduling* influence the time teachers have available to collaborate and learn from each other.

These elements play out within a social and political context that shapes school conditions, supports for children and families, and the design and implementation of policies. We illustrate how these components interact in Figure 1–1.

Figure 1–1 Policies in a Teaching and Learning System



Responding to different educational challenges, countries and provinces differ in their relative emphasis on elements of the policy system and the manner in which policies are implemented. For example, as we show in subsequent chapters, Finland has placed particular emphasis on effective recruitment strategies and strong teacher preparation; in Singapore, collaborative professional learning and well-developed career pathways are key levers; in Shanghai, intensive mentoring of beginners and development of all teachers' practice is facilitated by school designs that provide significant time for collaboration and learning. Though the emphasis and balance of policies may vary, none of these functions is neglected in well-functioning policy environments.

Every country faces differing circumstances and contexts for education. Moreover, implementation strategies necessarily vary, because each context poses different challenges that must be addressed in order to avoid the "slip between the cup and the lip" that can undermine policy intentions when initiatives make their way to schools. However, common elements and themes emerge in these settings that, taken with the proper analytical grain of salt, can yield important lessons for improving education policy and teaching quality across other nations and settings.

We know that the factors shaping teaching and student outcomes are complex, and so we have sought to avoid facile explanations or silver bullet solutions. Instead, building on our examination of hundreds of documents and in-country interviews at every level of these systems, coupled with in-depth observations in schools, we provide rich descriptions of the policies and their implementation in these educational systems. (See Appendix A for a description of the study's methodology.) We further examine how these approaches contribute to well-developed teaching practices and in turn facilitate learning that prepares students for the growing complexity of 21st-century economies. Through this investigation, we aim to uncover lessons and principles that might inform the way policy makers and practitioners think about educational policy as it may apply to their own settings.

Why Study International Teaching Policy?

Research into educational performance around the globe increasingly points to the role of a strong teaching workforce in achieving a high-performing system. In a now well-known study of 25 education systems, researchers Barber and Mourshed (2007) found that these countries had several features in common. First, policies were designed to find people with the right skills and attributes to become teachers. Competitive

salaries helped make the profession attractive to potential candidates, and high standards were set for entry into and graduation from initial teacher education programs. Together these helped raise the status of teaching, creating a virtuous cycle for ongoing recruitment.

Second, these systems developed teacher education programs that promoted the integration of theory with the building of practical skills, and they established policies for ongoing learning that helped teachers identify areas for growth, learn from each other, and improve their instructional practices. Coaching and professional learning opportunities helped support ongoing teacher development and instructional leadership.

Third, these systems created strategies to ensure that all students, not just some, had access to high-quality instruction. As the report notes:

Getting the right people to become teachers and developing them into effective instructors gives school systems the capacity they need to deliver the improved instruction that leads to improved outcomes. High-performing school systems go further than this and put in place processes which are designed to ensure that every child is able to benefit from this increased capacity. (Barber & Mourshed, 2007, p. 34)

These processes can include not only the equitable distribution of well-qualified educators and overall school funding but also the additional instructional, health, and welfare supports that enable students to benefit from quality teaching. Studies from the Organization for Economic Cooperation and Development (OECD) find that allocating resources to better address students' needs helps disrupt the usually strong relationship between students' socioeconomic background and their achievement (OECD, 2013a, 2013b).

Although there is widespread agreement that attention to educator recruitment, preparation, and development matters, less is understood about how countries and states create and manage such systems in very different contexts and how they integrate their teaching policies with their approaches to curriculum, assessment, accountability, and school design—creating a comprehensive teaching and learning system. We take on these questions in this study.

Policy systems that support high-quality teaching practices are of intense importance in an era characterized by rapid knowledge expansion and change. Researchers at the University of California at Berkeley have shown that more new knowledge was created between 1999 and 2003 than in the entire history of the world preceding—and knowledge growth continues exponentially (Lyman & Varian, 2003). Technology knowledge is doubling every 11 months, and technology advances are