

How High-Achieving Countries Develop Great Teachers

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About this Brief

Research shows that professional learning can have a powerful effect on teacher skills and knowledge, and on how well students learn. To be effective, however, professional learning for teachers needs to be conducted in the ways that it is in many high-achieving countries—continuously, collaboratively, and with a focus on teaching specific content to particular learners. Studies of U.S. professional development show that a small minority of American teachers receive the kind of sustained, job-embedded professional development that research indicates can change teaching practice and improve student achievement. This brief looks at how high-achieving countries organize professional learning for teachers, and draws a set of policy lessons for the United States.

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All around the world, nations seeking to improve their education systems are investing in teacher learning as a major engine for academic success. The highest-achieving countries on international measures such as (Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) have been particularly intent on developing teachers' expertise both before they enter the profession and throughout their careers. As Michael Barber and Mona Mourshed noted in a recent international study:

The experience of [high-performing] school systems suggests that three things matter most:

1. getting the right people to become teachers;
2. developing them into effective instructors and;
3. ensuring that the system is able to deliver the best possible instruction for every child.

In top-ranked nations, supports for teaching take the form of:

- **Universal high-quality teacher education**, typically two to four years in duration, completely at government expense, featuring extensive clinical training as well as coursework,
- **Equitable, competitive salaries**, comparable to those of other professions, such as engineering, sometimes with additional stipends for hard-to-staff locations,
- **Mentoring for all beginners**, coupled with a reduced teaching load and shared planning time,
- **Extensive opportunities for ongoing professional learning**, embedded in substantial planning and collaboration time at school;
- **Teacher involvement** in curriculum and assessment development and decision making.

These practices stand in stark contrast to those in the United States where, with sparse and fragmented governmental support, teachers typically enter:

- With dramatically different levels of preparation, largely unsupported by government funding, with those least prepared teaching the most educationally vulnerable children,

- At sharply disparate and often inadequate salaries—with those teaching in the poorest communities earning the least, stimulating a revolving door of underprepared teachers;
- With little or no mentoring, on-the-job coaching, or embedded professional learning opportunities in most communities.

Studies of U.S. professional development show that a small minority of American teachers receive the kind of sustained, continuous professional development that research indicates can change teaching practice and improve student achievement. In 2008, for example, most U.S. teachers received most of their professional development in workshops of eight hours or less over the course of a year—the kind of “one-shot” workshops teachers bemoan.

A summary of experimental studies confirmed what teachers already know—that professional development activities of under 14 hours appear to have no effect on teachers’ effectiveness. Meanwhile, well-designed content-specific learning opportunities averaging about 50 hours over a 6 to 12 month period of time were associated with gains of up to 21 percentile points on the achievement tests used to evaluate student learning. Whereas fewer than 20 percent of U.S. teachers receive this kind of professional development in any area, such opportunities are routine for teachers in high-achieving nations.

Below we look at how a set of high-achieving Organisation for Economic Co-operation and Development (OECD) countries organize professional learning for teachers, and draw a set of policy lessons for the United States.

Strong Beginnings

All of the highest achieving nations have overhauled teacher education to ensure stronger programs across the enterprise, and to ensure that able candidates can afford to become well-prepared as they enter the profession. In Scandinavia, for example, teacher candidates in Finland, Sweden, Norway, and the Netherlands now receive two to three years of graduate-level preparation for teaching, completely at government expense, *plus* a living stipend. Typically, this includes at least a full year of training in a school connected to the university, like the model

schools in Finland which resemble professional development school partnerships created by some U.S. programs. Programs also include extensive coursework in content-specific pedagogy and a thesis researching an educational problem in the schools.

This is also the practice in Asian nations like Singapore and Korea, and in jurisdictions like Hong Kong and Chinese Taipei, where most teachers prepare in four-year undergraduate programs, although graduate programs are growing more common. Unlike the United States, where teachers either go into debt to prepare for a profession that will pay them poorly or enter with little or no training, these countries invest in a uniformly well-prepared teaching force by overhauling preparation, recruiting top candidates, and paying them to go to school. Slots in teaching programs are highly coveted in these nations, and shortages are virtually unheard of.

Once teachers are hired, resources are targeted to schools to support mentoring for novices. Induction programs are mandatory in many countries, such as Australia, France, Greece, Israel, Italy, Japan, Korea, New Zealand, and Switzerland. Generally, induction programs in high achieving nations include: (1) release time for new teachers and mentor teachers to participate in coaching and other induction activities, and (2) training for mentor teachers.

In a model like that found in a number of Asian nations, the New Zealand Ministry of Education funds 20 percent release time for new teachers and 10 percent release time for second-year teachers to observe other teachers, attend professional development activities, work on curriculum, and attend courses. Mentor teachers also have time to observe and meet with beginning teachers. In places like Singapore, mentor teachers receive special training and certification and additional compensation in the salary schedule.

Countries like England, France, Israel, Norway, Singapore, and Switzerland also require formal training for mentor teachers. Norwegian principals assign an experienced, highly qualified mentor to each new teacher and the teacher education institution then trains the mentor and takes part in in-school guidance. In some Swiss states, the new teachers in each

district meet in reflective practice groups twice a month with an experienced teacher who is trained to facilitate their discussions of common problems for new teachers.

In Singapore, master teachers who have received training from the Institute of Education are appointed to lead the coaching and development of new and veteran teachers in each school. Through its National Literacy and Numeracy Strategies (described later), England trains coaches for new teachers about both effective pedagogies for students and the techniques to get teachers to employ them.

Time for Professional Learning and Collaboration

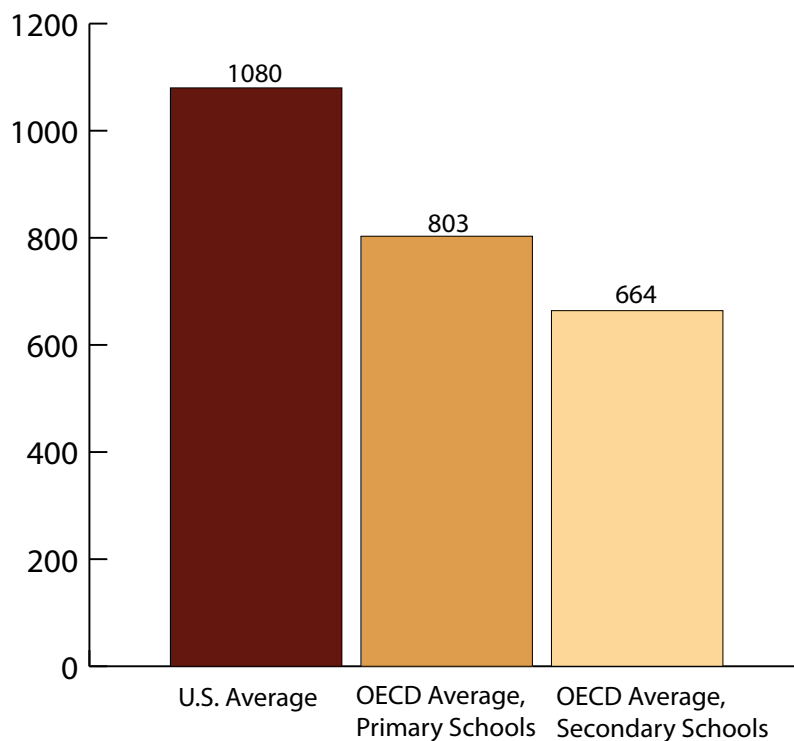
How is it that teachers in European and Asian nations have so much more intensive professional learning opportunities? One of the key structural supports for teacher learning is the allocation of time in teachers' work day and week to participate in such activities. Whereas U.S. teachers generally have from 3 to 5 hours a week for lesson planning, in most of these countries, teachers spend from 15 to 25 hours per week on tasks related to teaching, such as working with colleagues on preparing

and analyzing lessons, developing and evaluating assessments, observing other classrooms, and meeting with students and parents.

As Figure 1 shows, teachers in the U.S. teach far more hours per year (1080) than those in other OECD nations. Instructional delivery consumes about 80 percent of U.S. teachers' total working time as compared to about 60 percent for teachers in these other nations, leaving teachers abroad much more time to plan and learn together, developing high-quality curriculum and instruction.

Most planning is done in collegial settings, in the context of subject matter departments, grade level teams, or the large teacher rooms where teachers' desks are located to facilitate collective work. In South Korea—much like Japan and Singapore—only about 35 percent of teachers' working time is spent teaching pupils. Teachers work in a shared office space during out-of-class time since the students stay in a fixed classroom while the teachers rotate to teach them different subjects. The shared office space facilitates sharing of instructional resources and ideas among teachers, which is especially helpful for new teachers.

Figure 1: Number of Hours Teachers Spend in Instruction Annually



Source: OECD Education at a Glance, 2007

Similarly, in Denmark, Finland, Hungary, Italy, Norway, Switzerland, and Flemish Belgium, schools provide substantial time for regular collaboration among teachers on issues of instruction. Teachers in Finnish schools, for example, meet one afternoon each week to jointly plan and develop curriculum, and schools in the same municipality are encouraged to work together to share materials. When time for professional development is built into teachers' working time, their learning activities can be ongoing and sustained, and can focus on particular issues and problems over time.

Job-embedded professional learning time also supports the kind of context-specific professional learning and action research that has been found to be more effective in catalyzing change in teaching practice than the generic workshops that are common in the United States. Active research on a topic

related to education is fairly common in Western European schools where professional development time is built into the teachers' work time. In Denmark, Finland, Italy, and Norway, teachers participate in collaborative research and/or development on topics related to education both in their pre-service preparation and in their ongoing work on the job. Similarly, England, Hungary, and Ontario (Canada) have created opportunities for teachers to engage in school-focused research and development. Teachers are provided time and support for studying and evaluating their own teaching strategies and school programs and in sharing their findings with their colleagues, and through conferences and publications.

A highly developed practice in Japan and China—one that is now spreading to other nations—is the “research lesson,” or “lesson study,” approach to

Japan's Lesson Study Approach to Professional Development

In Japan *kenkyuu jugyuu* (research lessons) are a key part of the learning culture. Every teacher periodically prepares a best possible lesson that demonstrates strategies to achieve a specific goal (e.g. students becoming active problem-solvers or students learning more from each other) in collaboration with other colleagues. A group of teachers observe while the lesson is taught and usually record the lesson in a number of ways, including videotapes, audiotapes, and narrative and/or checklist observations that focus on areas of interest to the instructing teacher (e.g., how many student volunteered their own ideas). Afterwards, the group of teachers, and sometimes outside educators, discuss the lesson's strengths and weakness, ask questions, and make suggestions to improve the lesson. In some cases the revised lesson is given by another teacher only a few days later and observed and discussed again.

Teachers themselves decide the theme and frequency of research lessons. Large study groups often break up into subgroups of 4-6 teachers. The subgroups plan their own lessons but work toward the same goal and teachers from all subgroups share and comment on lessons and try to attend the lesson and follow-up discussion. For a typical lesson study, the 10-15 hours of group meetings are spread over three to four weeks. While schools let out between 2:40 and 3:45 p.m., teachers' work days don't end until 5 p.m., which provides additional time for collegial work and planning. Most lesson study meetings occur during the hours after school lets out. The research lessons allow teachers to refine individual lessons, consult with other teachers and get colleagues' observations about their classroom practice, reflect on their own practice, learn new content and approaches, and build a culture that emphasizes continuous improvement and collaboration.

Some teachers also give public research lessons, which expedites the spread of best practices across schools, allows principals, district personnel, and policymakers to see how teachers are grappling with new subject matter and goals, and gives recognition to excellent teachers.

professional inquiry. (See sidebar, page 4.) When engaged in lesson study, groups of teachers observe each other's classrooms and work together to refine individual lessons, expediting the spread of best practices throughout the school.

Professional Development Opportunities

Many high-achieving nations also organize extensive professional development that draws on expertise beyond the school. While relatively few countries have established national professional development requirements, Singapore, Sweden, and the Netherlands require at least 100 hours of professional development per year, beyond the many hours spent in collegial planning and inquiry.

In Sweden, 104 hours or 15 days a year (approximately 6 percent of teachers' total working time) are allocated for teachers' in-service training, and in 2007, the national government appropriated a large grant to establish a professional development program called *Lärarlyftet* ("Lifting the Teachers"). The grant pays the tuition for one university course for all compulsory school and preschool teachers, and supports 80 percent of a teacher's salary while the teacher works in a school for 20 percent of her time and studies in a university post-graduate program for the remaining time.

After their fourth year of teaching, South Korean teachers are required to take 90 hours of professional development courses every three years. Also, after three years of teaching, teachers are eligible to enroll in a five-week (180-hour) professional development program approved by the government to obtain an advanced certificate, which provides an increase in salary and eligibility for promotion.

In Singapore, the government pays for 100 hours of professional development each year for all teachers. This is in addition to the 20 hours a week teachers have to work with their colleagues and visit each others' classrooms to study teaching. Currently teachers are being trained to undertake action research projects in the classroom so that they can examine teaching and learning problems, and find solutions that can be disseminated to others. (See sidebar, page 6.) With help from the government, Singapore teachers can take courses at the National

Institute of Education toward a master's degree aimed at any of three separate career ladders that help them become curriculum specialists, mentors for other teachers, or school principals. These opportunities build their own expertise and that of the profession as a whole, as their work in these roles supports other teachers.

A few countries have established national training programs. For example, as part of the National Literacy and National Numeracy Strategies, England instituted a national training program in best-practice training techniques accompanied by resources to support implementation of the national curriculum frameworks. These include packets of high quality teaching materials, resource documents, and videos depicting good practice. A "cascade" model of training—similar to a trainer of trainers model—is structured around these resources to help teachers learn and use productive practices. The National Literacy and National Numeracy Centers provide leadership and training for teacher training institutions and consultants, who train school heads, coordinators, lead math teachers, and expert literacy teachers, who in turn support and train other teachers.

As more teachers become familiar with the strategies, expertise is increasingly located at the local level with consultants and leading mathematics teachers and literacy teachers providing support for teachers. In 2004, England began a new component of the strategies designed to allow schools and local education agencies to learn best practices from each other by funding and supporting 1,500 groups of six schools each. These strategies have been accompanied by a rise in the percentage of students meeting the target literacy standards from 63 to 75 percent in just three years.

Since 2000, the Australian government has been sponsoring the Quality Teacher Programme, a large scale program that provides funding to update and improve teachers' skills and understandings in priority areas and enhance the status of teaching in both government and non-government schools. The Programme operates at three levels: (1) Teaching Australia (formerly the National Institute for Quality Teaching and School Leadership); (2) National

Singapore's Investment in Teacher Professional Learning

Among its many investments in teacher professional learning is the Teachers Network, established in 1998 by the Singapore Ministry of Education as part of Prime Minister Goh Chok Tong's new vision, "thinking schools, learning nation." This vision aims to produce life-long learners by making schools a learning environment for everyone from teachers to policy makers, and having knowledge spiral up and down the system. The Teachers Network's mission is to serve as a catalyst and support for teacher-initiated development through sharing, collaboration, and reflection. The Teachers Network has six main interrelated components: (1) learning circles, (2) teacher-led workshops, (3) conferences, (4) a well-being program, (5) a website, and (6) publications.

In a Teachers Network learning circle 4-10 teachers and a facilitator collaboratively identify and solve common problems chosen by the participating teachers using discussions and action research. The learning circles generally meet for eight two-hour sessions over a period of 4-12 months. Supported by the national university, Teachers Network professional development officers run an initial whole-school training program on the key processes of reflection, dialogue, and action research and a more extended program to train teachers as learning circle facilitators and mentor facilitators in the field. A major part of the facilitator's role is to encourage the teachers to act as co-learners and critical friends so that they feel safe to take the risks of sharing their assumptions and personal theories, experimenting with new ideas and practices, and sharing their successes and problems. Discussing problems and possible solutions in learning circles fosters a sense of collegiality among teachers and encourages teachers to be reflective practitioners. Learning circles allow teachers to feel that they are producing knowledge, not just disseminating received knowledge.

Teacher-led workshops provide teachers an opportunity to present their ideas and work with their colleagues in a collegial atmosphere where everyone, including the presenter, is a co-learner and critical friend. Each workshop is jointly planned with a Teachers Network professional development officer to ensure that everyone will be a co-learner in the workshop. The presenters first prepare an outline of their workshop, then the professional development officer helps the presenters surface their tacit knowledge and assumptions and trains them in facilitation so that they do not present as an expert with all the answers, but share and discuss the challenges they face in the classroom. The process is time consuming, but almost all teacher presenters find that it leads to them grow professionally.

Projects; and (3) State and Territory Projects. Teaching Australia facilitates the development and implementation of nationally agreed upon teaching standards, conducts research, and communicates research findings, and facilitates and coordinates professional development courses. The National Projects include programs designed to identify and promote best practices, support the development and dissemination of professional learning resources in priority areas, and develop professional networks for teachers and school leaders. The State and Territory Projects

fund a wide variety of professional learning activities for teachers and school leaders—including school-based action research and learning, conferences, workshops, on-line or digital media, and training of trainers—tailoring these to local needs.

Teacher Involvement in Decision-Making

One of the policy conditions associated with increased teacher collaboration in many high-achieving nations is the decentralization of educational policy. In Western Europe, nations such as Finland,

Sweden, and Switzerland have decentralized much of their educational decision-making to local agencies, schools, and teachers. Highly detailed curriculum documents and external tests were replaced in the 1970s and 80s by much broader goal statements that were designed to guide teachers' development of curriculum and instruction. Teachers in these and many other nations are responsible for designing key assessments to evaluate student learning as part of an assessment system that includes school-based assessments. The content of professional learning is determined according to local needs and is often embedded in the work of "teacher teams" or "teacher units" at particular schools, which are empowered to make decisions around curriculum and evaluation.

In Sweden, the decentralization of the curriculum and in-service training led to a shift in the focus of the work at each school from prescribed teaching methods to problem solving focused on teachers' own classrooms. Teachers now work in teams which meet during regular working hours to discuss and make decisions on common matters in their work, including the planning of lessons, the welfare of pupils, curriculum development, and evaluation.

A study of school leadership in Finland found the inclusion of teachers and other staff in policy and decision-making to be the norm, with teacher and administrator teams work together on developing syllabi, selecting textbooks, developing curriculum and assessments, deciding on course offerings and

Finland's Decentralized Model for Teacher Professional Development

During the 1990s, the Finnish educational system underwent a series of reforms that led to a decentralization of authority and granted local municipalities, schools, and teachers a high level of autonomy. Other than the college entrance exam taken at the end of general upper secondary school, there are no external high-stakes tests. Evaluation of student outcomes is the responsibility of each Finnish teacher and school. The national curriculum became more flexible, decentralized, and less detailed, granting teachers a high level of pedagogical and curricular autonomy. Findings from the Programme for International Student Assessment (PISA) teacher surveys indicate that teachers are provided with substantial authority to make decisions regarding school policy and management. For example, Finnish teachers have exclusive responsibility for selecting textbooks, and have more input into the development of course content, student assessment policies, the course offerings within a school, and budget allocation within a school. Survey studies also indicate that nearly half of teachers' time in Finland consists of non-teaching activities such as school-based curriculum work, collective planning, cooperation with parents, and outdoor activities.

In Finland, there is no formal in-service teacher education program at the national level, other than a few days of annual mandatory training. In the place of compulsory, traditional in-service training are school-based or municipality-based programs and professional development opportunities that are ongoing and long-term. The focus of these programs is to increase teacher professionalism and to improve their abilities to solve problems within their school contexts by applying evidence-based solutions, and evaluating the impact of their procedures. Time for joint planning and curriculum development is built into teachers' work week, with one afternoon each week designated for this work. Because the national curriculum defines outcome goals broadly, teachers within schools must work together to develop the curriculum and to plan the instructional strategies for teaching the curriculum to the specific students in their schools. This engagement with the National Curriculum—and the creation of school plans for how the curriculum will be enacted—enables teachers to deeply understand the standards and expectations, and to build stronger, more coherent approaches to teaching them.

budget, planning and scheduling professional development, and more. These deliberations are themselves a form of professional development, as teachers study issues and share their ideas. (See “Finland’s Decentralized Model for Teacher Professional Development” on page 7.)

Conclusion and Policy Implications

Professional development policies and practices in high-achieving nations reflect many of the principles of effective professional learning outlined by research, providing sustained and extensive opportunities to develop practice that go well beyond the traditional “one-shot” workshop approaches that are more commonly found in the United States. Building time into teachers’ work schedules provides them with regular and ongoing opportunities to engage in collaborative inquiry aimed at improving teaching and learning in their unique contexts. Policies that provide schools and teachers with the power to make decisions around local curriculum and assessment practices, and to select the content of professional development based on local priorities, are also associated with higher levels of teacher engagement in collaborative work and learning activities.

If the United States were to emulate the practices of these nations, it would:

1. **Develop universally strong designs** for teacher education offering research-based training and extensive clinical practice.
2. **Subsidize the costs of preparation** for all recruits, so that all could afford to be well-prepared.

3. **Invest in more competitive and equitable salaries** to ensure that all communities can attract well-prepared and effective teachers.
4. **Underwrite mentoring** for all beginning teachers, featuring in-classroom coaching by trained mentors, and shared collaboration time for novices.
5. **Organize schools to provide time for teacher collaboration**—at least 10 hours per week—in which teachers can engage in collective curriculum planning, analysis of student work, and sustained, job-embedded professional development.
6. **Provide training for lesson study, action research, and inquiry** that can guide teachers and school leaders in ongoing curriculum development and problem solving in their schools and classrooms.
7. **Allocate time and develop curriculum and training resources for regular professional learning opportunities**—at least 10 days per year—supported by trained coaches and mentors, and linked to the content teachers teach, as well as the standards students are expected to meet.

In high achieving nations, teachers’ professional learning is a high priority and teachers are treated as professionals. Many of the countries that have established strong infrastructures for high-quality teaching have built them over the last two decades. This suggests that such conditions could be developed in the United States as well, with purposeful effort and clarity about what matters and what works to support professional learning and practice.



To read more, see the full report: Wei, R. C., Darling-Hammond, L., Andree, A., Richardson, N., Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad*. Dallas, TX. National Staff Development Council. The report can be downloaded from: <http://edpolicy.stanford.edu>. This project is supported by a generous grant from the Ford Foundation.